

BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF THE)
APPLICATION OF OKLAHOMA)
GAS AND ELECTRIC COMPANY)
FOR AN ORDER OF THE)
COMMISSION AUTHORIZING)
APPLICANT TO MODIFY ITS)
RATES, CHARGES, AND TARIFFS)
FOR RETAIL ELECTRIC SERVICE)
IN OKLAHOMA)

CAUSE NO. PUD 201700496

Responsive Testimony and Exhibits of

Christopher C. Walters

Senior Consultant

Brubaker & Associates, Inc.

On behalf of

Federal Executive Agencies

May 2, 2018

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Responsive Testimony of Christopher C. Walters**

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Responsive Testimony of Christopher C. Walters

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Christopher C. Walters. My business address is 16690 Swingley Ridge Road,
3 Suite 140, Chesterfield, MO 63017.

4 **Q WHAT IS YOUR OCCUPATION?**

5 A I am a Senior Consultant in the field of public utility regulation with the firm of
6 Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

7 **Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A This information is included in Appendix A to my testimony.

9 **Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

10 A I am testifying on behalf of the Federal Executive Agencies ("FEA"), consisting of
11 certain agencies of the United States government which have offices, facilities, and/or

1 installations in the service area of Oklahoma Gas and Electric Company ("OG&E" or
2 "Company"), from whom they purchase electricity and energy services.

3 **Q WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY?**

4 A My testimony will address the current market cost of equity, and resulting overall rate
5 of return, for OG&E. In my analyses, I consider the results of several market models,
6 the current economic environment and outlook for the electric utility industry, as well
7 as the financial integrity of OG&E given my recommended return on equity. I will also
8 respond to OG&E's requested return on equity of 9.90% and overall rate of return of
9 7.76%.

10 My silence in regard to any issue shall not be construed as an endorsement of
11 OG&E's position.

12 **Q ARE YOU SPONSORING ANY EXHIBITS IN CONNECTION WITH YOUR**
13 **TESTIMONY?**

14 A Yes. I am sponsoring Exhibits CCW-1 through CCW-21.

15 **I. SUMMARY**

16 **Q PLEASE SUMMARIZE YOUR RECOMMENDATIONS AND CONCLUSIONS ON**
17 **RATE OF RETURN.**

18 A I recommend the Oklahoma Corporation Commission (the "Commission") award a
19 return on common equity of 9.35%, which is at the midpoint of my recommended
20 range of 9.10% to 9.60%. My recommended return on equity will fairly compensate
21 OG&E for its current market cost of common equity, and it will mitigate the claimed

1 revenue deficiency in this proceeding by providing OG&E fair compensation with the
2 lowest cost to customers.

3 Based on my recommended return on equity, the Company's embedded cost
4 of debt, and capital structure, I recommend an overall rate of return of 7.47% at this
5 time as developed on my Exhibit CCW-1. Reducing OG&E's requested return on
6 equity of 9.90% to my recommended return on equity of 9.35% would reduce the
7 Company's claimed revenue deficiency by approximately \$18.1 million.

8 Finally, I will also comment on the return on equity recommendations and
9 supporting studies offered by Company witness Dr. Roger A. Morin.

10 **Q PLEASE SUMMARIZE FEA'S RECOMMENDATIONS AND CONCLUSIONS ON**
11 **OG&E'S REVENUE REQUIREMENTS.**

12 **A** In addition to the reduction of \$18.1 million to OG&E's claimed deficiency resulting
13 from my recommended rate of return, my colleague Mr. Brian C. Andrews is
14 recommending a reduction to the Company's proposed depreciation rates and
15 expenses. As described in his responsive testimony, and shown on his Exhibit
16 BCA-2, he recommends a reduction of \$25.0 million to OG&E's depreciation
17 expenses on an Oklahoma retail basis. The total adjustments made by FEA
18 witnesses amount to a reduction in OG&E's claimed revenue deficiency of
19 \$43.1 million.

20 **II. RATE OF RETURN**

21 **Q PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.**

22 **A** In this section of my testimony, I will explain the analyses I performed to determine a
23 reasonable rate of return for OG&E and present the results of my analyses. I begin

1 my estimate of a fair return on equity by reviewing the authorized returns approved by
2 the regulatory commissions throughout the United States, and the market's
3 assessment of the regulated utility industry's investment risk, credit standing, and
4 stock price performance. I used this information to get a sense of the market's
5 perception of the risk characteristics of regulated electric utility investments in
6 general, which is then used to produce a refined estimate of the market's return
7 requirement for assuming investment risk similar to OG&E's utility operations.

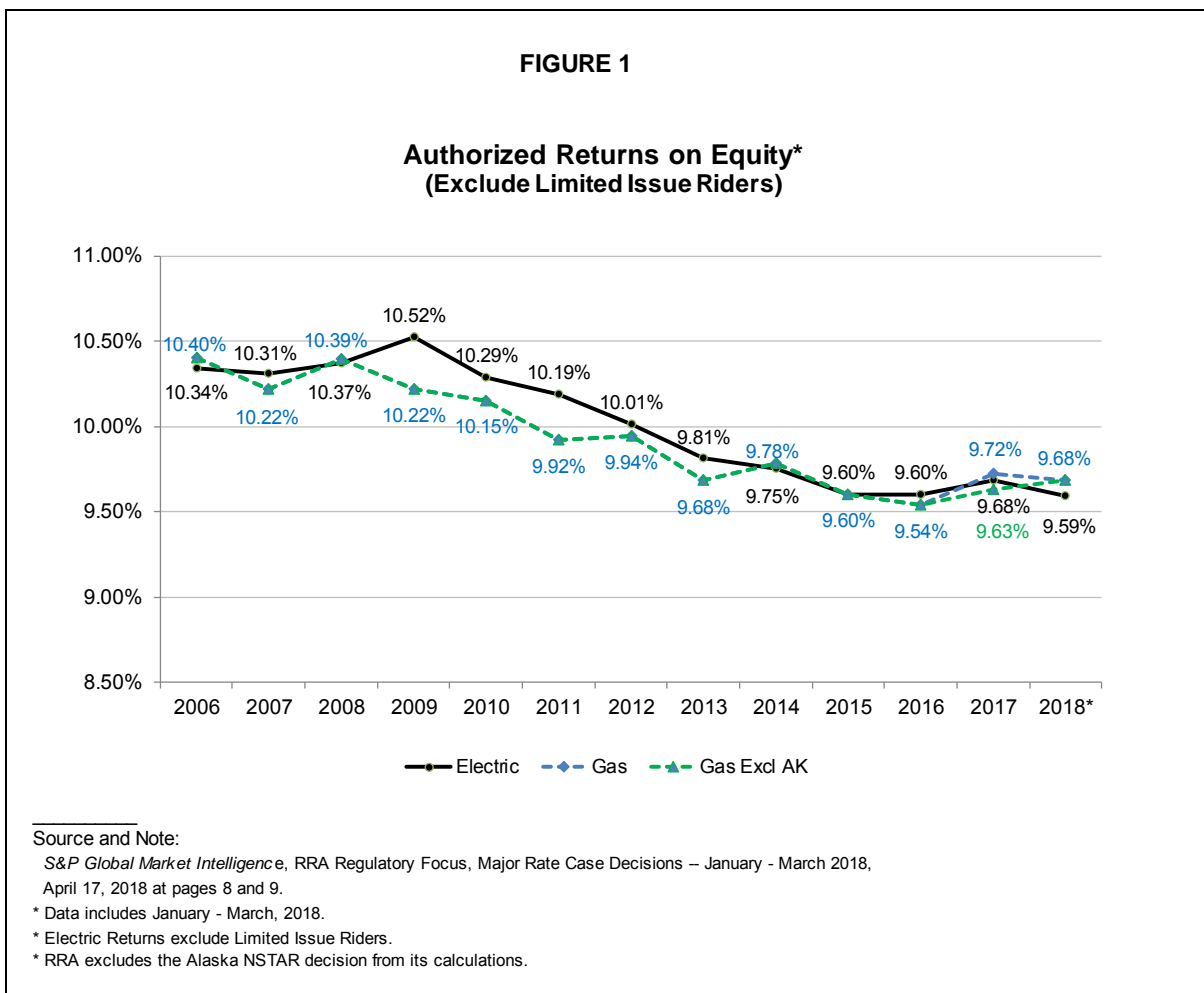
8 As described below, I find the credit rating outlook of the industry to be
9 relatively stable and supportive of the industry's financial integrity and access to
10 capital. Further, regulated utilities' stocks have exhibited strong price performance
11 over the last several years, which is evidence of utility access to capital at reasonable
12 prices.

13 Based on this review of credit outlooks and stock price performance, I
14 conclude that the market continues to embrace the regulated utility industry and
15 views utility equity and debt investments as lower-risk securities.

16 **II.A. Electric Industry Authorized Returns on Equity,**
17 **Access to Capital, and Credit Strength**

18 **Q PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN**
19 **AUTHORIZED RETURNS ON EQUITY FOR REGULATED UTILITIES, UTILITIES'**
20 **CREDIT STANDING, AND UTILITIES' ACCESS TO CAPITAL USED TO FUND**
21 **INFRASTRUCTURE INVESTMENT.**

22 **A** Authorized returns on equity for both electric and gas utilities have declined over the
23 last ten years, as illustrated in Figure 1 below, and have been reasonably stable well
24 below 10.0% for about the last five years.



Q PLEASE DESCRIBE THE DISTRIBUTION OF AUTHORIZED RETURNS ON EQUITY FOR THE LAST FEW YEARS.

A The industry average authorized return on equity is skewed upward by certain jurisdictions that generally award utilities returns on equity much higher than the rest of the industry. Indeed, as shown on my Exhibit CCW-2, approximately 53% of the industry's authorized returns on equity in 2016 were at or below 9.7%. In 2016, the number of observations in the industry at or below 9.7% was 17 of 32. In 2017, the number of observations for authorized returns on equity at or below 9.7% increased as a percentage of total observations in the industry. Specifically, in 2017, 29 of 43 (or 67%) of the authorized returns on equity were 9.7% or below. In 2017, the

1 awards at or below 9.7% ranged from 8.4% to 9.7%. This trend continued into the
2 first quarter of 2018, where five of the seven authorized returns on equity fell at or
3 below 9.7%, and ranged from 9.0% to 9.7%.

4 For vertically integrated electric utilities only, the central tendency of
5 authorized returns on equity has also been declining to below 9.7%. Specifically, as
6 shown on page 2 of Exhibit CCW-2, in 2016, nine out of the 20 observations for
7 integrated electric utility companies were below 9.7%. By 2017, 17 of the 28
8 observations were at or below 9.7%, with 9.5% being the most common authorized
9 return. This trend continued into 2018, where four out of the six authorized returns on
10 equity were at 9.7% or less.

11 The distribution of returns shows that over the last few years, the share of
12 authorized returns below 9.7% has grown. Within the distribution of returns less than
13 or equal to 9.7%, the majority are at or below 9.5%.

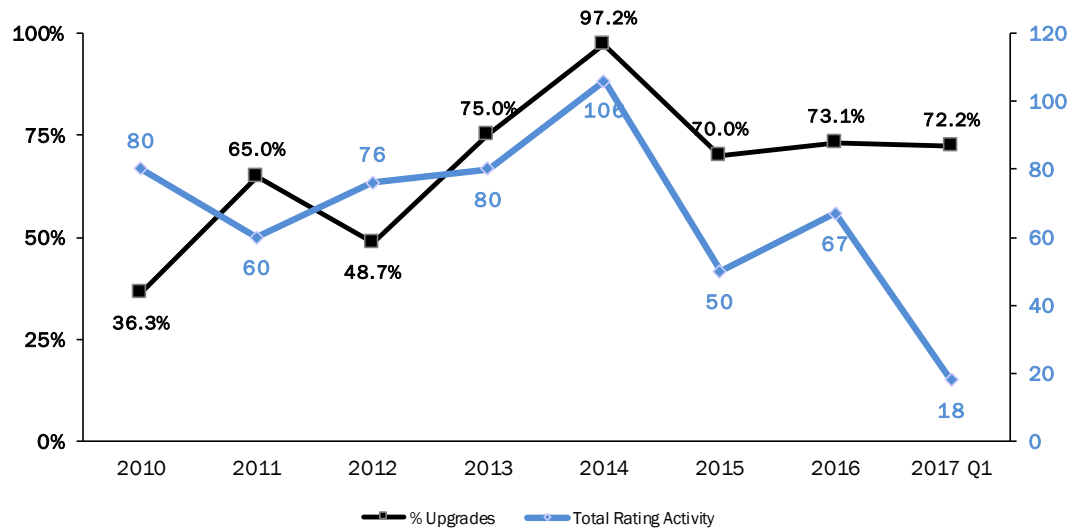
14 **Q PLEASE DESCRIBE THE TREND IN CREDIT RATING CHANGES IN THE**
15 **ELECTRIC UTILITY INDUSTRY OVER THE LAST FIVE YEARS.**

16 **A** As shown in Figure 2 below, over the period 2010 – Q1, 2017, the electric utility
17 industry has experienced a significant number of upgrades in credit ratings by all of
18 the major credit rating agencies (Fitch Ratings, Moody's, and Standard & Poor's).

FIGURE 2

**Credit Rating Changes
(U.S. Investor-Owned Electric Utility Industry)**

	2010	2011	2012	2013	2014	2015	2016	2017 Q1
Upgrades	29	39	37	60	103	35	49	13
Downgrades	51	21	39	20	3	15	18	5
% Upgrades	36.3%	65.0%	48.7%	75.0%	97.2%	70.0%	73.1%	72.2%
Total Rating Activity	80	60	76	80	106	50	67	18



Source: EEI 2017 Q1 Credit Ratings. Tab IV. Direction of Rating Action.

As noted above in Figure 2, the upgrades in utility credit ratings started outpacing downgrades in 2011, and more recently, the number of upgrades has substantially exceeded the number of downgrades. For example, in 2014, there were 103 upgrades and only three downgrades. In 2015, the number of upgrades was more than twice the number of downgrades (35 upgrades and 15 downgrades). This trend was even more profound in 2016 and continued with data available for early 2017.

Q HOW DID THIS CREDIT RATING ACTIVITY IMPACT THE CREDIT RATING OF THE ELECTRIC UTILITY INDUSTRY?

A The credit rating changes for the electric utility industry over the last several years are the result of marked improvement in overall financial health and credit quality as shown below in Table 1. As shown in this table, in 2008, approximately 69% of the electric utility industry was rated from BBB- to BBB+, 18% had a bond rating better than BBB+, and around 13% of the industry was below investment grade.

This industry rating improved steadily over the subsequent eight years. By 2017, none of the industry is below investment grade, around 62% continue to be in the range of BBB- to BBB+, and approximately 68% of the industry has a bond rating at or above BBB+. Overall, the improvement in the electric utility industry's overall credit quality has been quite significant.

Table 1

**S&P Ratings by Category
(Year End)**

<u>Description</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017 Q1</u>
Regulated										
A or higher	8%	7%	9%	8%	6%	3%	3%	3%	6%	6%
A-	10%	15%	14%	14%	17%	20%	21%	22%	28%	31%
BBB+	23%	22%	17%	19%	14%	17%	32%	33%	36%	31%
BBB	23%	27%	31%	35%	36%	49%	37%	33%	22%	20%
BBB-	23%	20%	17%	14%	17%	6%	3%	3%	8%	11%
Below BBB-	<u>13%</u>	<u>10%</u>	<u>11%</u>	<u>11%</u>	<u>11%</u>	<u>6%</u>	<u>5%</u>	<u>6%</u>	<u>0%</u>	<u>0%</u>
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: EEI 2017 Q1 Credit Ratings. Tab V. S&P Rating by Comp. Category.

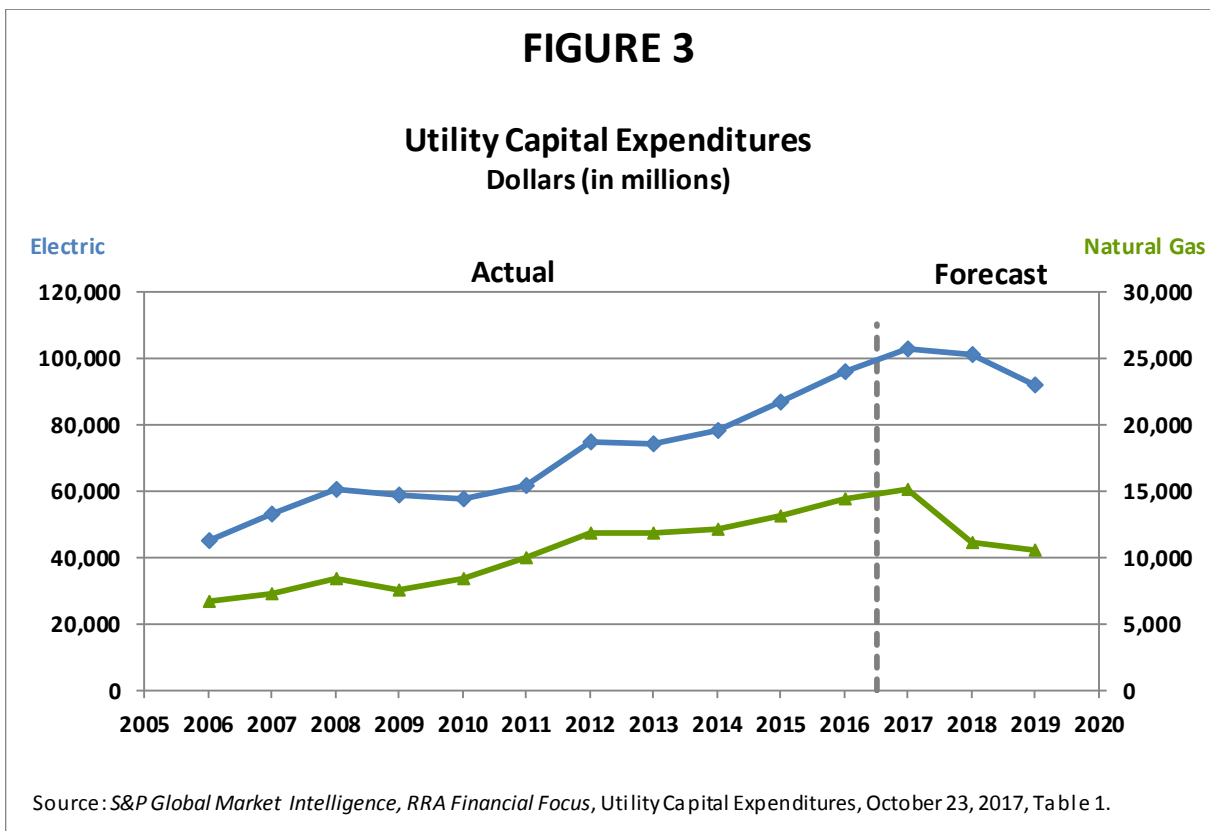
1 **Q HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO SUPPORT**
2 **INFRASTRUCTURE CAPITAL PROGRAMS?**

3 A Yes. In its October 23, 2017 Capital Expenditure Update report, *RRA Financial*
4 *Focus*, a division of S&P Global Market Intelligence, made several relevant comments
5 about utility investments generally:

- 6 • Projected 2017 capital expenditures for the 53 gas and electric utilities
7 in the RRA universe has stayed steady at about \$117.5 billion, which
8 would be an all-time high for the sector.
- 9 • CapEx projections for the longer term increased modestly from our
10 previous analysis in March 2017, rising to \$111.8 billion for 2018 and
11 \$102.4 billion for 2019, as companies' plans for future projects
12 solidified and new opportunities arose.
- 13 • The nation's electric and gas utilities are investing in infrastructure to
14 upgrade aging transmission and distribution systems, build new natural
15 gas, solar and wind generation and implement new technologies. We
16 expect considerable levels of spending to serve as the basis for solid
17 profit expansion for the foreseeable future.¹

18 Historical versus projected outlooks for the electric and gas industries' capital
19 investments are shown in Figure 3 below. As shown in this graph, regulated industry
20 investment outlooks are expected to be considerably higher in the forecast
21 (2017-2019), relative to the last ten-year historical period. As noted by S&P Global
22 Market Intelligence, this capital investment is exceeding internal sources of funds for
23 the regulated utilities, requiring them to seek external capital to fund capital
24 investments.

¹S&P Global Market Intelligence, *RRA Financial Focus: "Utility Capital Expenditures,"*
October 23, 2017, Table 1.



As shown in Figure 3 above, the capital investments for the electric utility industry are significantly higher than the capital investments for the gas industry but they follow the same trend over the historical and forecasted period.

Q IS THERE EVIDENCE OF ROBUST VALUATIONS OF REGULATED UTILITY EQUITY SECURITIES?

A Yes. Robust valuations are an indication that utilities can sell securities at high prices, which is a strong indication that they can access equity capital under reasonable terms and conditions, and at relatively low cost. As shown on Exhibit CCW-3, the historical valuation of electric and gas utilities followed by *Value Line*, based on a price-to-earnings (“P/E”) ratio, price-to-cash flow (“P/CF”) ratio, and market price-to-book value (“M/B”) ratio, indicates utility security valuations today are very strong and robust relative to the last several years. These strong valuations of

utility stocks indicate that utilities have access to equity capital under reasonable terms and at lower costs.

Q HOW SHOULD THE COMMISSION USE THIS MARKET INFORMATION IN ASSESSING A FAIR RETURN FOR OG&E?

A Market evidence is quite clear that capital market costs are near historically low levels. Authorized returns on equity have fallen to the mid 9.0% range; utilities continue to have access to large amounts of external capital to fund large capital programs; and utilities' investment grade credit standings are stable and have improved due, in part, to supportive regulatory treatment. The Commission should carefully weigh all this important observable market evidence in assessing a fair return on equity for OG&E.

II.B. Regulated Utility Industry Market Outlook

Q PLEASE DESCRIBE THE CREDIT RATING OUTLOOK FOR REGULATED UTILITIES.

A Regulated utilities' credit ratings have improved over the last few years and the outlook has been labeled "Stable" by credit rating agencies. Credit analysts have also observed that utilities have strong access to capital at attractive pricing (i.e., low capital costs), which has supported very large capital programs.

S&P recently published a report titled "Corporate Industry Credit Research: Industry Top Trends 2018, North America Regulated Utilities." In that report, S&P noted the following:

– Ratings Outlook: Rating trends across regulated utilities in North America remain mostly stable supported by stable regulatory oversight, mostly flat demand for utility services, but tempered by aggressive capital spending and tax reform considerations in the U.S.

1 that will keep credit metrics from improving and weaken some entities
2 depending on individual tax situations and regulatory/management
3 responses. Emerging new technological and regulatory trends in
4 historically stable Canada and the U.S. may have far-reaching effect
5 on utilities over time, but we see limited influence from those factors in
6 2018.

7 – **Forecasts:** Credit ratios are likely to be stable to slightly lower in
8 2018 with some downside risk as U.S. utilities grapple with tax reform.
9 Revenue growth will be modest in most areas in keeping with the flat
10 demand growth. Margins across the industry in North America are
11 expected to be flat to improving slightly as operating conditions and
12 favorable fuel cost trends are maintained.

13 – **Assumptions:** Sales growth at most utilities is loosely tied to the
14 general economic outlook in its service territory, with low demand
15 keeping growth flat or very low for most. We project continued
16 regulatory support for utility earnings and cash flow, with the
17 occasional exception due to specific political or policy issues at the
18 local level. Capital spending will continue to be elevated for most
19 utilities, as infrastructure needs are not abating.

20 – **Risks:** Transformative risks abound in the Canadian and U.S. utility
21 sector, especially in electric utilities. Corporate transformations (M&A)
22 are an ever-present risk to ratings. Electric generation transformation
23 is ongoing as carbon concerns and other environmental considerations
24 lead utilities to change the mix of fuel sources. Grid transformation is
25 becoming more prominent as utilities react to technological advances
26 and other disruptive forces.

27 – **Industry Trends:** The utility sector in the U.S. and Canada is stable
28 with some modest downside ratings exposure, consistent with our
29 general ratings outlook and the nature of the essential products and
30 services utilities sell. Tax reform in the U.S. has emerged as a more
31 urgent issue and could on a case-by-case basis result in downgrades.
32 However, the industry as a whole is well positioned to withstand mild
33 shocks, and we see steady growth and stable credit quality overall.²

34 Similarly, Moody's states:

35 "Today's action primarily applies to companies that already had limited
36 cushion in their rating for deterioration in financial performance, will be
37 incrementally impacted by changes in the tax law and where we now
38 expect key credit metrics to be lower for longer," said Jim Hempstead,
39 a Managing Director at Moody's. "Utilities will work closely with state
40 regulators to try to mitigate the negative impact of tax reform and in
41 some cases they may seek to refine their corporate financial policies.
42 Where successful, their rating outlooks could revert to stable."

²*Standard & Poor's Global Ratings:* "Industry Top Trends 2018: North America Regulated Utilities," January 25, 2018, at 1, emphasis added.

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The vast majority of US regulated utilities, however, continue to maintain stable rating outlooks. We do not expect the cash flow reduction associated with tax reform to materially impact their credit profiles because sufficient cushion exists within projected financial metrics for their current ratings. Nonetheless, further actions could occur on a company specific basis.

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Over the next 12 to 18 months, Moody's will continue to monitor the financial impact of tax reform on each company, including its regulatory approach to rate treatment and any changes to corporate finance strategies. This will include balance sheet changes due to the reclassification of excess deferred tax liabilities as a regulatory liability and the magnitude of any amounts to be refunded to customers. If the financial impact of tax reform is more severe than Moody's initial estimates or the companies fail to materially mitigate any weaknesses in their financial profiles, the ratings could be downgraded.³

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In a recent report, Fitch states:

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The Tax Cuts and Jobs Act signed into law on Dec. 22, 2017 has negative credit implications for U.S. regulated utilities and utility holding companies over the short-to-medium term, according to Fitch Ratings. A reduction in customer bills to reflect lower federal income taxes and return of excess accumulated deferred income taxes is expected to lower revenues and funds from operations (FFO) across the sector. Absent mitigating strategies on the regulatory front, this is expected to lead to weaker credit metrics and negative rating actions for those issuers that have limited headroom to absorb the leverage creep.

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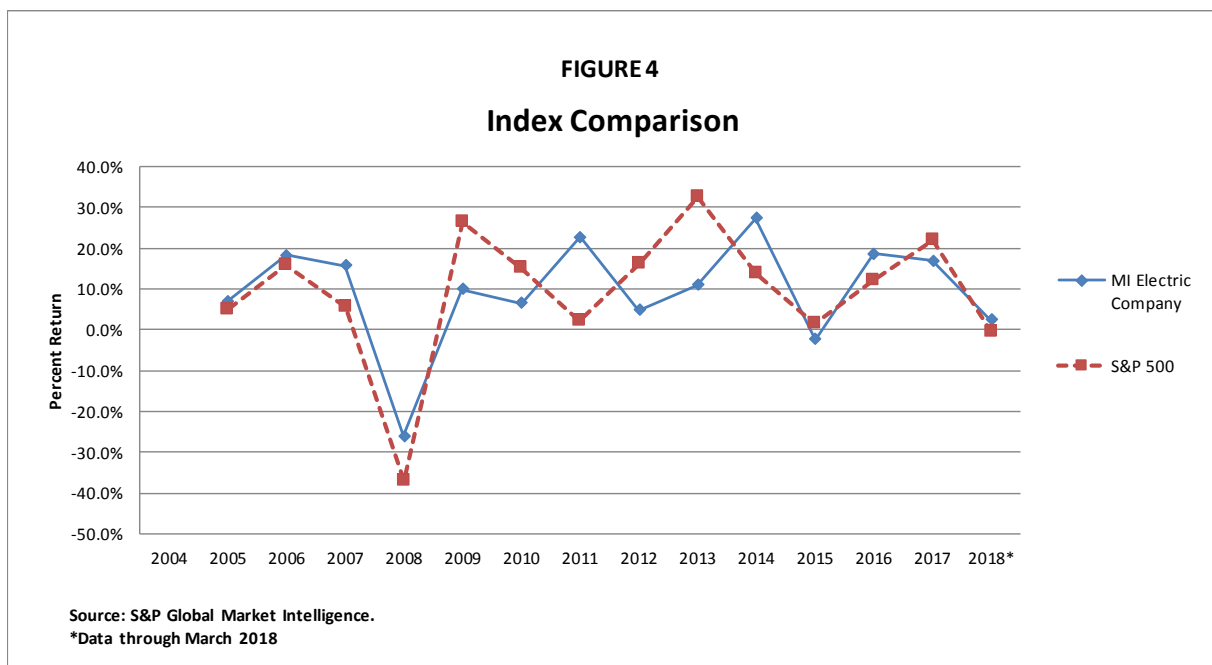
Over a longer-term perspective, Fitch views tax reform as modestly positive for utilities. The sector retained the deductibility of interest expense, which would have otherwise significantly impacted cost of capital for this capital intensive sector. The exemption from 100% capex expensing is also welcome news for the sector, which has seen years of bonus depreciation reduce rate base leading to lower earnings. Finally, the reduction in federal income taxes lowers cost of service to customers, providing utilities headroom to increase rates for capital investments.⁴

³Moody's *Investors Service*: "Rating Action: Moody's changes outlooks on 25 US regulated utilities primarily impacted by tax reform," January 19, 2018, emphasis added.

⁴Fitch Ratings: "Tax Reform Creates Near-term Credit Pressure for U.S. Utilities," January 24, 2018.

1 **Q PLEASE DESCRIBE UTILITY STOCK PRICE PERFORMANCE OVER THE LAST**
2 **SEVERAL YEARS.**

3 A As shown in Figure 4 below, S&P Global Market Intelligence (“MI”) has recorded
4 utility stock price performance compared to the market. The industry’s stock
5 performance data from 2004 through March 2018 shows that the MI Electric Index
6 has followed the market through downturns and recoveries. However, utility
7 investments have exhibited less volatility during extreme market downturns. This
8 more stable price performance for utilities supports my conclusion that utility stock
9 investments are regarded by market participants as moderate- to low-risk
10 investments.



11 **Q HAVE ELECTRIC UTILITY INDUSTRY TRADE ORGANIZATIONS COMMENTED**
12 **ON ELECTRIC UTILITY STOCK PRICE PERFORMANCE?**

13 A Yes. In its 4th Quarter 2017 Financial Update, the Edison Electric Institute (“EEI”)
14 stated the following concerning the EEI Electric Utility Stock Index (“EEI Index”):

1 COMMENTARY

2 Utility investors began 2017 with the now-perennial fear of rising
3 interest rates, amplified by the Federal Reserve's desire to finally wean
4 markets off the near-zero short-term yields in place since the
5 2008/2009 financial crisis. The Fed did raise the Federal Funds target
6 rates by 25 basis points three times in 2017 (in March, June and
7 December) and the three-month Treasury Bill rate ended the year at
8 1.4% up from 0.5% when 2017 began. But longer-term rates again
9 defied market expectations. The 10-year Treasury began the year at
10 2.45%. But instead of rising it fell — to almost 2.0% by September —
11 before climbing back to end the year about where it began, at just over
12 2.4%.

13 * * *

14 Industry Fundamentals Remain Healthy

15 The industry's stock performance in 2017 was something of a
16 reflection of its strong fundamentals, which include healthy balance
17 sheets, steady mid-single-digit earnings growth from capital investment
18 programs and an industry average dividend yield just above 3%.

19 * * *

20 Outlook Remains Steady

21 Most analysts see the industry set to continue its mid-single-digit
22 earnings growth over the next several years, with growing dividends
23 and healthy balance sheets, and with re-gional pockets of opportunity
24 for higher growth rates. Of course, this optimism is reliant on continued
25 support from state regulators for utility investment (and the jobs
26 thereby produced); a trend that could be threatened if fuel prices rise
27 and pressure rates upward rather than down. The Trump
28 Administration's tax reform provides an additional benefit for regulated
29 utilities; savings passed to customers are one more measure that can
30 limit bill increases in a time of rising capex. According to EIA data, the
31 average cost of electricity in late 2017 was about 10.58
32 cents/kilowatthour, not too far above the 9.74 cent level ten years ago
33 in 2008.⁵

⁵EEI Q4 2017 Financial Update: "Stock Performance" at 1 and 4-6.

1 **II.C. Federal Reserve and Market Capital Costs Outlook**

2 **Q HAVE YOU CONSIDERED CONSENSUS MARKET OUTLOOKS FOR CHANGES**
3 **IN INTEREST RATES IN FORMING YOUR RECOMMENDED RETURN ON EQUITY**
4 **IN THIS CASE?**

5 A Yes. The outlook for changes in interest rates, inflation, and Gross Domestic Product
6 (“GDP”) growth has been impacted by expectations that the Federal Open Market
7 Committee (“FOMC”) will raise short-term interest rates. The consensus shows
8 expectations of continued increases in the Federal Funds Rate as the FOMC
9 continues to normalize interest rates in response to the strengthening of the U.S.
10 economy.

11 This is evident from a comparison of current and forecasted changes in the
12 Federal Funds Rate, as shown in Table 2 below. However, while the Federal Funds
13 Rate is expected to increase over the next several years, the consensus for increases
14 in long-term interest rates is not as significant. This is also illustrated in Table 2
15 below.

TABLE 2

Blue Chip Financial Forecasts
Projected Federal Funds Rate, 30-Year Treasury Bond Yields, and GDP Price Index

<u>Publication Date</u>	<u>3Q 2017</u>	<u>4Q 2017</u>	<u>1Q 2018</u>	<u>2Q 2018</u>	<u>3Q 2018</u>	<u>4Q 2018</u>	<u>1Q 2019</u>	<u>2Q 2019</u>	<u>3Q 2019</u>
<u>Federal Funds Rate</u>									
Nov-17	1.2	1.2	1.4	1.6	1.8	2.0	2.1		
Dec-17	1.2	1.2	1.4	1.6	1.8	2.0	2.2		
Jan-18		1.2	1.5	1.7	1.9	2.0	2.2	2.4	
Feb-18		1.2	1.5	1.7	1.9	2.1	2.3	2.5	
Mar-18		1.2	1.5	1.7	1.9	2.2	2.3	2.5	
Apr-18			1.4	1.7	2.0	2.2	2.4	2.6	2.7
<u>T-Bond, 30 yr.</u>									
Nov-17	2.8	3.0	3.1	3.3	3.4	3.5	3.6		
Dec-17	2.8	2.9	3.1	3.3	3.4	3.5	3.6		
Jan-18		2.8	3.0	3.1	3.3	3.4	3.5	3.6	
Feb-18		2.8	3.0	3.1	3.3	3.4	3.5	3.6	
Mar-18		2.8	3.1	3.2	3.4	3.5	3.6	3.7	
Apr-18			3.0	3.2	3.3	3.5	3.6	3.7	3.8
<u>GDP Price Index</u>									
Nov-17	2.2	2.0	1.9	2.0	2.1	2.1	2.2		
Dec-17	2.2	2.2	2.0	1.9	2.1	2.1	2.2		
Jan-18		2.2	2.0	1.9	2.0	2.1	2.2	2.0	
Feb-18		2.4	2.0	2.0	2.1	2.1	2.2	2.1	
Mar-18		2.4	2.1	2.0	2.2	2.1	2.2	2.2	
Apr-18			2.3	2.0	2.2	2.1	2.2	2.1	2.2

Source and Note:

Blue Chip Financial Forecasts, November 2017 through April 2018.
Actual Yields in Bold

1 I note that the six increases in the Federal Funds Rate experienced over the
2 last few years have not caused comparable changes in long-term interest rates. This
3 is illustrated on my Exhibit CCW-4. As shown on that exhibit, the actions taken by the
4 FOMC to increase the Federal Funds Rate have simply flattened the yield curve, and
5 have not resulted in an equal increase in long-term interest rates. This is significant

1 because the cost of common equity is impacted by long-term interest rates, not short-
2 term interest rates. As a result, the recent increases in the Federal Funds Rate, and
3 the expectation of continued increases in the Federal Funds Rate, have not, and are
4 not expected to, significantly impact long-term interest rates.

5 The Federal Reserve has also recently implemented a strategy to begin to
6 unwind its balance sheet position in long-term securities. The Federal Reserve built
7 up approximately \$4.7 trillion of Treasury and mortgage-backed security holdings as
8 part of a quantitative easing ("QE") program that spanned 2008 to 2014. During this
9 QE program, the Federal Reserve procured long-term securities in an effort to
10 support the Federal Reserve's monetary policy, mitigate long-term interest rates, and
11 to support a recovering economy.

12 The Federal Reserve recently started to unwind its balance sheet positions of
13 mortgage-backed securities and Treasury bonds. The Fed now engages in a slow
14 and systematic reduction to its balance sheet position. This Fed balance sheet action
15 has been fully disclosed to the market, and the impact on capital markets valuation
16 and interest rates is captured in current and projected interest rates.

17 For these reasons, the Federal Reserve actions on short-term interest rates
18 have not resulted in matched increases in long-term interest rates. Further, the
19 Federal Reserve's proposed plan for unwinding its balance sheet position is not
20 expected to have a significant impact on long-term interest rates. All this indicates
21 that the Federal Reserve's monetary policy changes related to a strengthening
22 economy have not and are not expected to increase long-term interest rates. Further,
23 this outlook is reflected in economic consensus forecasts of long-term interest rates,
24 which indicate a relatively low capital market cost period for at least the intermediate
25 period.

1 **Q HAVE LONGER-TERM PROJECTIONS OF INTEREST RATES MODERATED**
2 **MORE RECENTLY RELATIVE TO THE LAST FEW YEARS?**

3 A Yes. This is shown below in Table 3. There, I show the prevailing quarterly average
4 Treasury bond yield, and the projections of Treasury bond yields 18 months out and
5 five to ten years out. Significantly, Treasury bond yields in 2017 were relatively
6 moderate and comparable to those in 2015 and 2016; however, projections of future
7 Treasury bond yields are now much lower five to ten years out than they were for the
8 last three years. Indeed, in 2014, forecasted Treasury bond yields five to ten years
9 out were projected to increase to 5.6% from the 3.26% to 3.79% prevailing yields.
10 These five to ten-year projections have steadily declined through 2015 and 2016.
11 Most recently, long-term projections of Treasury bond yields are now expected to
12 remain relatively low in the 4.1% to 4.3% area.

13 While the accuracy of projected increases in interest rates is at best
14 problematic, what is significant is that the consensus is now projecting out relatively
15 low levels of capital market costs over the next five to ten years. This outlook
16 represents a material moderation in capital market costs over the forecast period.

TABLE 3**30-Year Treasury Bond Yield Actual Vs. Projection**

<u>Description</u>	<u>Quarterly Average</u>	<u>2-Year Projected</u>	<u>5- to 10-Year Projected</u>
<u>2014</u>			
Q1	3.79%	4.40%	5.0% - 5.5%
Q2	3.69%	4.50%	
Q3	3.44%	4.40%	5.3% - 5.6%
Q4	3.26%	4.30%	
<u>2015</u>			
Q1	2.97%	4.00%	4.9% - 5.1%
Q2	2.55%	3.70%	
Q3	2.83%	4.00%	4.8% - 5.0%
Q4	2.84%	3.90%	
<u>2016</u>			
Q1	2.96%	3.80%	4.5% - 4.8%
Q2	2.72%	3.60%	
Q3	2.64%	3.40%	4.3% - 4.6%
Q4	2.29%	3.10%	
<u>2017</u>			
Q1	2.82%	3.70%	4.2% - 4.5%
Q2	3.05%	3.80%	
Q3	2.91%	3.70%	4.3% - 4.5%
Q4	2.82%	3.60%	
<u>2018</u>			
Q1	2.82%	3.60%	4.1% - 4.3%

Sources:

*Blue Chip Financial Forecasts ,
December 2013 through March 2018.*

1 **II.D. OG&E Investment Risk**

2 **Q PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF THE INVESTMENT RISK**
3 **OF OG&E.**

4 **A** The market's assessment of OG&E's investment risk is described by credit rating
5 analysts' reports. OG&E's current corporate bond ratings from S&P and Moody's are
6 A- and A1, respectively. Both ratings agencies currently have a "negative" outlook for
7 OG&E.

8 Specifically, S&P states:

9 **Overview**

- 10 • After incorporating revised capital expenditure estimates
11 and its pending rate case (reduced by the potential impact
12 of U.S. corporate tax reform) in our forecasts, we expect
13 OGE Energy Corp.'s (OGE) funds from operations (FFO) to
14 debt to be very close to our downgrade trigger of 23%.
- 15 • This combined with rising regulatory risk in Oklahoma
16 creates some uncertainty regarding OGE's ability to
17 consistently maintain FFO to debt above 23%.
- 18 • As a result, we are revising our rating outlooks on OGE and
19 subsidiary Oklahoma Gas & Electric Co. (OG&E) to
20 negative from stable. At the same time, we are affirming our
21 ratings, including our 'A-' issuer credit rating and 'A-2' short-
22 term rating, on both entities.
- 23 • The negative outlook reflects the limited cushion in OGE's
24 financial measures and the uncertainty regarding the
25 company's management of regulatory risk that could
26 challenge its ability to maintain FFO to debt above 23%.

27 * * *

28 **Rationale**

29 The outlook revision reflects the company's revised capital
30 spending plan and the effects of U.S. corporate tax reform that
31 we expect will weaken the company's financial measures going
32 forward, resulting in minimal cushion for the current rating level.
33 In addition, our outlook revision incorporates our view of the
34 company's management of regulatory risk in Oklahoma, which

has weakened over the past year, potentially challenging the company's ability to maintain FFO to debt above 23%.

* * *

Our business risk assessment for OGE reflects the strength and stability of a vertically integrated regulated utility, OG&E, which provides electricity to about 830,000 customers in Oklahoma and has an excellent business risk profile. It also reflects OGE's investment in the midstream energy joint venture Enable Midstream Partners L.P. (Enable), which in our opinion, carries more business risk and has a satisfactory business risk profile. We view OGE's business risk at the high end of the strong category, in part because the regulated utility operations are low risk, it operates within a reasonably supportive cost recovery regulatory jurisdiction, and it benefits from healthy economic growth in its service territory. The company's rate base is split between Oklahoma (80%), the Federal Energy Regulatory Commission (FERC) (13%), and Arkansas (7%). OG&E contributes over 80% to OGE's consolidated earnings, distributions, and cash flow.⁶

Q IS THERE EVIDENCE THAT INDICATES OG&E'S RATINGS ARE IMPACTED BY FACTORS OUTSIDE OF ITS REGULATED RETAIL OPERATIONS?

A Yes. In its September 2017 report on OG&E, S&P explicitly states that OG&E's outlook reflects the outlook of its parent OGE Energy which includes its ownership of Enable. Additionally, S&P makes note that there are no meaningful insulation, or ring-fence, measures protecting OG&E from its parent.

S&P stated the following in September:

Outlook: Stable

The outlook on Oklahoma City, Okla.-based Oklahoma Gas & Electric Co. (OG&E) reflects the outlook on its parent, OGE Energy Corp. The stable rating outlook on OGE Energy Corp. reflects S&P Global Ratings' expectation that management will not increase its general partnership (GP) ownership in Enable that could result in a reassessment of the business and the

⁶S&P Global Ratings RatingsDirect. "Research Update: OGE Energy Corp. and Subsidiary Outlooks Revised To Negative On Weaker Financial Measures; Ratings Affirmed," March 5, 2018, at 2-3, emphasis added.

1 financial risk profiles. We also expect that OGE will maintain
2 credit protection measures in line with the current financial risk
3 profile by ensuring adequate cost recovery for its capital
4 projects. Specifically, our base-case scenario forecast calls for
5 adjusted funds from operations (FFO) to total debt in the range
6 of 23%-26% from 2018 onwards.

7 * * *

8 **Group Influence**

9 Under our group rating methodology, we assess OG&E to be a
10 core subsidiary of OGE Energy, reflecting our view that OG&E
11 is highly unlikely to be sold and has a strong long-term
12 commitment from senior management. There are no
13 meaningful insulation measures in place that protect OG&E
14 from its parent and therefore, the issuer credit rating on the
15 utility is in line with OGE Energy's group credit profile of 'a-'.⁷
16
17

18 **II.E. OG&E's Proposed Capital Structure**

19 **Q WHAT IS OG&E'S PROPOSED CAPITAL STRUCTURE?**

20 **A** OG&E's proposed capital structure is shown in Table 4 below:

TABLE 4	
<u>OG&E's Proposed Capital Structure</u>	
<u>Description</u>	<u>Weight</u>
Long-Term Debt	46.66%
Common Equity	<u>53.34%</u>
Total Regulatory Capital Structure	100.00%
Source: OG&E Schedule F-1	

⁷S&P Global Ratings Research: "Summary: Oklahoma Gas & Electric Co.," September 15, 2017, pages 3 and 6, emphasis added.

1 **Q IS OG&E'S PROPOSED CAPITAL STRUCTURE IN LINE THE COMMISSION'S**
2 **CONCERNS EXPRESSED IN THE FINAL ORDER ISSUED IN OG&E'S LAST**
3 **RATE CASE?**

4 **A No. In Cause No. PUD 201500273, the Commission stated the following:**

5 Despite accepting the recommendation of the ALJ, the Commission is
6 concerned with OG&E's current equity to debt ratio, which is not in
7 line with averages of other utilities. OG&E should further evaluate
8 adjusting its equity to debt ratio to maximize the benefits of lower cost
9 debt, similar to that of other utilities, by its next base rate proceeding.
10 The Commission will be closely reviewing OG&E's weighted average
11 cost of capital in a future base rate proceeding and is not opposed to
12 considering utilizing a hypothetical capital structure for OG&E if
13 sufficiently persuaded based upon the evidence presented in that
14 case.⁸

15 **Q THE ORDER STATES THAT THE COMMISSION WOULD CONSIDER A**
16 **HYPOTHETICAL CAPITAL STRUCTURE. IS THERE SOMETHING THAT OG&E**
17 **COULD HAVE DONE TO AVOID THE POTENTIAL OF A HYPOTHETICAL**
18 **CAPITAL STRUCTURE IMPOSED ON IT IN THIS PROCEEDING?**

19 **A Yes. This Commission provided a pretty clear opinion in its order from the last rate**
20 case that it believed OG&E's 53.3% common equity ratio to be unreasonable. OG&E
21 could have adjusted its capital structure accordingly since the Commission issued its
22 Order to be more consistent with a reasonable common equity ratio less than 53.3%.

23 **Q HOW DOES OG&E'S ADJUSTED DEBT RATIO USING S&P'S METHODOLOGY**
24 **COMPARE TO THE INDUSTRY AVERAGE AND MEDIAN ADJUSTED DEBT**
25 **RATIOS FOR UTILITIES WITH BOND RATINGS SIMILAR TO OG&E?**

26 **A OG&E's adjusted debt ratio considering S&P's credit rating benchmarks, discussed**
27 later in my testimony, indicates that at a 53.3% ratemaking common equity ratio,

⁸ Cause No. PUD 201500273, Order No. 662059, pages 5-6.

OG&E would have an adjusted debt ratio of approximately 49.4%. This adjusted debt ratio is conservative relative to the industry median (52.8%) for other companies with OG&E's bond rating as shown in Table 5 below.

TABLE 5 Operating Subsidiaries Regulated Utilities <u>Credit Metrics Adjusted Debt Ratio</u> (Industry Medians)				
<u>Rating</u>	<u>Median</u>	<u>% Distribution</u>		
		<u>< 50</u>	<u>50 to 55</u>	<u>> 55</u>
AA-	45.0	100%	0%	0%
A+	55.8	0%	33%	67%
A	51.4	40%	44%	15%
A-	52.8	34%	34%	32%
BBB+	53.6	23%	44%	33%
BBB	53.5	30%	34%	36%
BBB-	56.1	15%	30%	56%

Source:
S&P Capital IQ, downloaded November 30, 2017.

Q HOW WOULD A RATEMAKING EQUITY RATIO OF 53.3% COMPARE TO THE REGULATED UTILITY INDUSTRY AVERAGE EQUITY RATIOS USED TO SET RATES?

A A 53.3% ratemaking common equity ratio is very generous in comparison to the equity ratios normally used to set rates for electric and gas utilities. This is shown below in Table 6.

TABLE 6					
<u>Trends in State Authorized Common Equity Ratios</u>					
<u>(Industry)</u>					
<u>Line</u>	<u>Year</u>	<u>Natural Gas¹</u>		<u>Electric¹</u>	
		<u>Average</u>	<u>Median</u>	<u>Average</u>	<u>Median</u>
	(1)	(2)	(3)	(4)	(5)
1	2010	49.25%	49.90%	49.49%	49.79%
2	2011	52.49%	52.45%	49.09%	49.10%
3	2012	51.13%	51.47%	51.45%	52.00%
4	2013	51.16%	50.43%	50.12%	51.03%
5	2014	51.90%	51.99%	50.28%	50.00%
6	2015	49.79%	50.33%	50.24%	50.48%
7	2016	51.85%	51.35%	49.70%	49.99%
8	2017	51.13%	51.76%	50.02%	49.85%
9	2018	51.66%	52.00%	49.21%	49.63%
10	Average	51.15%	51.30%	49.96%	50.21%
11	Min	49.25%	49.90%	49.09%	49.10%
12	Max	52.49%	52.45%	51.45%	52.00%
13	Midpoint	50.87%	51.17%	50.27%	50.55%
14	Oklahoma Gas and Electric Company 53.34%²				
<u>Source and Notes:</u>					
¹ S&P Global Market Intelligence, downloaded 4/2/2018					
² OG&E Schedule F-1					
- Data through 4/2/18					
- Excludes Arkansas, Florida, Indiana and Michigan					

1 As shown in the table above, regulated utility companies generally set rates
2 using equity ratios of around 50%. OG&E's 53.3% common equity ratio is high
3 relative to industry norms and therefore represents a potentially more expensive
4 capital structure than what is normally used to set rates.

1 **Q ARE YOU PROPOSING AN ADJUSTMENT TO OG&E'S CAPITAL STRUCTURE**
2 **AT THIS TIME?**

3 A At this time, I am not proposing an adjustment. However, this should not be
4 construed as agreement that OG&E's requested capital structure is reasonable.

5 **III. EMBEDDED COST OF DEBT**

6 **Q WHAT IS THE EMBEDDED COST OF DEBT THAT THE COMPANY IS**
7 **PROPOSING IN THIS PROCEEDING?**

8 A The Company is proposing an embedded debt cost of 5.32%. The embedded cost of
9 debt is developed on Company workpaper F-3.

10 **Q DO YOU HAVE ANY COMMENTS ON OG&E'S PROPOSED EMBEDDED COST**
11 **OF DEBT?**

12 A Yes. Based on my experience, OG&E's embedded cost of debt of 5.32% is rather
13 high for, and not representative of, a company rated A-/A1. The embedded cost is
14 being heavily impacted by two outstanding senior debt issuances that will mature
15 within the next nine months. Specifically, there is a \$250 million 6.35% issuance
16 maturing in September 2018, and a \$250 million 8.25% issue maturing January 2019.
17 Refinancing these two debt issues at a coupon rate of 4.50%, which is 65 basis
18 points higher than the Company's most recent debt offering of 3.85%, would lower
19 the embedded cost of debt from 5.32% to approximately 4.85%.

1 **Q WHAT IS YOUR RECOMMENDATION REGARDING OG&E’S EMBEDDED COST**
2 **OF DEBT AT THIS TIME?**

3 A Because the debt maturities are known and reasonably measureable, I recommend
4 the Commission require OG&E to update its embedded cost of debt to reflect the
5 actual cost when it refinances the September 2018 maturity.

6 **IV. RETURN ON EQUITY**

7 **Q PLEASE DESCRIBE WHAT IS MEANT BY A “UTILITY’S COST OF COMMON**
8 **EQUITY.”**

9 A A utility’s cost of common equity is the expected return that investors require on an
10 investment in the utility. Investors expect to earn their required return from receiving
11 dividends and through stock price appreciation.

12 **Q PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED**
13 **UTILITY’S COST OF COMMON EQUITY.**

14 A In general, determining a fair cost of common equity for a regulated utility has been
15 framed by two hallmark decisions of the U.S. Supreme Court: Bluefield Water Works
16 & Improvement Co. v. Pub. Serv. Comm’n of W. Va., 262 U.S. 679 (1923) and Fed.
17 Power Comm’n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

18 These decisions identify the general financial and economic standards to be
19 considered in establishing the cost of common equity for a public utility. Those
20 general standards provide the authorized return should: (1) be sufficient to maintain
21 financial integrity; (2) attract capital under reasonable terms; and (3) be
22 commensurate with returns investors could earn by investing in other enterprises of
23 comparable risk.

1 **Q PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE OG&E'S**
2 **COST OF COMMON EQUITY.**

3 A I have used several models based on financial theory to estimate OG&E's cost of
4 common equity. These models are: (1) a constant growth Discounted Cash Flow
5 ("DCF") model using consensus analysts' growth rate projections; (2) a constant
6 growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF
7 model; (4) a Risk Premium model; and (5) a Capital Asset Pricing Model ("CAPM"). I
8 have applied these models to a group of publicly traded utilities with investment risk
9 similar to OG&E.

10 **IV.A. Risk Proxy Group**

11 **Q PLEASE DESCRIBE HOW YOU IDENTIFIED A PROXY UTILITY GROUP THAT**
12 **COULD BE USED TO ESTIMATE OG&E'S CURRENT MARKET COST OF**
13 **EQUITY.**

14 A I relied on the same proxy group developed by OG&E witness Dr. Morin with three
15 exceptions. I excluded Westar because of its ongoing merger with Great Plains
16 Energy. It should be noted that Dr. Morin excluded Great Plains Energy for being a
17 party in the same merger transaction, but for some unexplained reason, elected to
18 leave Westar in his proxy group. In addition, I excluded Fortis and Emera from my
19 proxy group. I excluded Fortis because it is a Canada-based company. I excluded
20 Emera for two reasons: (1) it is a Canada-based company, and (2) it is not covered
21 under *Value Line's* Electric Utility universe.

1 **Q WHY IS IT APPROPRIATE TO EXCLUDE COMPANIES WHICH ARE INVOLVED**
2 **IN MERGER AND ACQUISITION (“M&A”) ACTIVITY FROM THE PROXY GROUP?**

3 A M&A activity can distort the market factors used in DCF and risk premium studies.
4 M&A activity can have impacts on stock prices, growth outlooks, and relative volatility
5 in historical stock prices if the market was anticipating or expecting the M&A activity
6 prior to it actually being announced. This distortion in the market data thus impacts
7 the reliability of the DCF and risk premium estimates for a company involved in M&A.

8 Moreover, companies generally enter into M&A in order to produce greater
9 shareholder value by combining companies. The enhanced shareholder value
10 normally could not be realized had the two companies not combined.

11 When companies announce a merger or acquisition, the public assesses the
12 proposed merger and develops outlooks on the value of the two companies after the
13 combination based on expected synergies or other benefits created by the
14 transaction.

15 As a result, the stock value before the merger is completed may not reflect the
16 forward-looking earnings and dividend payments for the company absent the merger
17 or on a stand-alone basis. Therefore, an accurate DCF return estimate on
18 companies involved in M&A activities cannot be produced because their stock prices
19 do not reflect the stand-alone investment characteristics of the companies. Rather,
20 the stock price more likely reflects the shareholder enhancement produced by the
21 proposed transaction. For these reasons, it is appropriate to remove companies
22 involved in M&A activities from a proxy group used to estimate a fair return on equity
23 for a utility.

1 **Q WHY IS IT APPROPRIATE TO EXCLUDE COMPANIES BASED IN CANADA?**

2 A Companies based in Canada face risks that are not applicable to OG&E's electric
3 utility operations. Specifically, Canada-based companies face different political and
4 regulatory regime risk. Investors for companies based in Canada likely require a
5 different risk premium relative to U.S.-based companies. Further, they likely have
6 access to a different set of investors, are potentially exposed to differences in interest
7 rate risk, and if they have U.S.-based operations, they also face foreign currency
8 translation risks, among many other potential risks.

9 **Q PLEASE DESCRIBE YOUR PROXY GROUP'S INDICATED INVESTMENT RISK**
10 **RELATIVE TO OG&E.**

11 A The proxy group shown in Exhibit CCW-5, has an average corporate credit rating
12 from S&P of BBB+, which is a notch lower than OG&E's A- credit rating from S&P.
13 The proxy group has an average corporate credit rating from Moody's of Baa1, which
14 is three notches below OG&E's credit rating from Moody's of A1.

15 I also note that the proxy group has an average common equity ratio of 46.8%
16 (including short-term debt) from S&P Global Market Intelligence ("MI") and 50.1%
17 (excluding short-term debt) from *The Value Line Investment Survey* ("Value Line").
18 The Company's proposed common equity ratio of 53.34% is relatively higher than the
19 average proxy group common equity ratio.

20 Based on this information, I conclude that cost of equity models applied to my
21 proxy group will reasonably, if not conservatively, estimate the cost of equity for
22 OG&E.

IV.B. Discounted Cash Flow Model

Q PLEASE DESCRIBE THE DCF MODEL.

A The DCF model posits that a stock price is valued by summing the present value of expected future cash flows discounted at the investor's required rate of return or cost of capital. This model is expressed mathematically as follows:

$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} + \dots + \frac{D_\infty}{(1+K)^\infty} \quad (\text{Equation 1})$$

P_0 = Current stock price

D = Dividends in periods 1 - ∞

K = Investor's required return

This model can be rearranged in order to estimate the discount rate or investor-required return, known as "K." If it is reasonable to assume that earnings and dividends will grow at a constant rate, then Equation 1 can be expressed as follows:

$$K = D_1/P_0 + G \quad (\text{Equation 2})$$

K = Investor's required return

D_1 = Dividend in first year

P_0 = Current stock price

G = Expected constant dividend growth rate

Equation 2 is referred to as the annual "constant growth" DCF model.

Q PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.

A As shown in Equation 2 above, the DCF model requires a current stock price, expected dividend, and expected growth rate in dividends.

1 **Q WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH**
2 **DCF MODEL?**

3 A I relied on the average of the weekly high and low stock prices of the utilities in the
4 proxy group over a 13-week period ending on April 6, 2018. An average stock price
5 is less susceptible to market price variations than a price at a single point in time.
6 Therefore, an average stock price is less susceptible to aberrant market price
7 movements, which may not reflect the stock's long-term value.

8 A 13-week average stock price reflects a period that is still short enough to
9 contain data that reasonably reflects current market expectations but the period is not
10 so short as to be susceptible to market price variations that may not reflect the stock's
11 long-term value. In my judgment, a 13-week average stock price is a reasonable
12 balance between the need to reflect current market expectations and the need to
13 capture sufficient data to smooth out aberrant market movements.

14 **Q WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?**

15 A I used the most recently paid quarterly dividend as reported in *Value Line*.⁹ This
16 dividend was annualized (multiplied by 4) and adjusted for next year's growth to
17 produce the D_1 factor for use in Equation 2 above. In other words, I calculate D_1 by
18 multiplying the annualized dividend (D_0) by $(1+G)$.

19 **Q WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT**
20 **GROWTH DCF MODEL?**

21 A There are several methods that can be used to estimate the expected growth in
22 dividends. However, regardless of the method, for purposes of determining the
23 market-required return on common equity, one must attempt to estimate investors'

⁹*The Value Line Investment Survey*, January 26, February 16, and March 16, 2018.

1 consensus about what the dividend, or earnings growth rate, will be and not what an
2 individual investor or analyst may use to make individual investment decisions.

3 As predictors of future returns, securities analysts' growth estimates have
4 been shown to be more accurate than growth rates derived from historical data.¹⁰
5 That is, assuming the market generally makes rational investment decisions, analysts'
6 growth projections are more likely to influence investors' decisions, which are
7 captured in observable stock prices, than growth rates derived only from historical
8 data.

9 For my constant growth DCF analysis, I have relied on a consensus, or mean,
10 of professional securities analysts' earnings growth estimates as a proxy for investor
11 consensus dividend growth rate expectations. I used the average of analysts' growth
12 rate estimates from three sources: Zacks, MI, and Reuters. All such projections were
13 available on April 6, 2018, and all were reported online.¹¹

14 Each consensus growth rate projection is based on a survey of securities
15 analysts. There is no clear evidence whether a particular analyst is most influential
16 on general market investors. Therefore, a single analyst's projection does not as
17 reliably portray a consensus of investor outlooks, as does a consensus of market
18 analysts' projections. The consensus estimate is a simple arithmetic average, or
19 mean, of surveyed analysts' earnings growth forecasts. A simple average of the
20 growth forecasts gives equal weight to all surveyed analysts' projections. Therefore,
21 a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market
22 consensus expectations.

¹⁰See, e.g., David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

¹¹Exhibit CCW-6.

1 **Q WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT GROWTH**
2 **DCF MODEL?**

3 A The growth rates I used in my DCF analysis are shown in Exhibit CCW-6. The
4 average growth rate for my proxy group is 5.33%.

5 **Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?**

6 A As shown in Exhibit CCW-7, the average and median constant growth DCF returns
7 for my proxy group for the 13-week analysis are 9.10% and 9.31%, respectively.

8 **Q DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT**
9 **GROWTH DCF ANALYSIS?**

10 A Yes. The constant growth DCF analysis for my proxy group is based on a group
11 average long-term sustainable growth rate of 5.33%. The three- to five-year growth
12 rates are higher than my estimate of a maximum long-term sustainable growth rate of
13 4.20%, which I discuss later in this testimony.

14 **Q HOW DID YOU ESTIMATE A MAXIMUM LONG-TERM SUSTAINABLE GROWTH**
15 **RATE?**

16 A A long-term sustainable growth rate for a utility cannot exceed the growth rate of the
17 economy in which it sells its goods and services. For this reason, the projected
18 long-term Gross Domestic Product ("GDP") growth rate is the best proxy for the
19 maximum long-term sustainable growth rate for a utility investment. *Blue Chip*
20 *Economic Indicators* projects that over the next 5 and 10 years, the U.S. nominal
21 GDP will grow at an annual rate of approximately 4.20%. These GDP growth
22 projections reflect a real growth outlook of around 2.0% and an inflation outlook of
23 around 2.1% going forward. As such, the average growth rate over the next 10 years

1 is around 4.20%, which I believe is a reasonable proxy of long-term sustainable
2 growth.¹²

3 In my multi-stage growth DCF analysis, I discuss academic and investment
4 practitioner support for using the projected long-term GDP growth outlook as a
5 maximum sustainable growth rate projection. Hence, using the long-term GDP
6 growth rate as a conservative projection for the maximum sustainable growth rate is
7 logical, and is generally consistent with academic and economic practitioner accepted
8 practices.

9 **IV.C. Sustainable Growth DCF**

10 **Q PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE LONG-TERM**
11 **GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.**

12 A A sustainable growth rate is based on the percentage of the utility's earnings that is
13 retained and reinvested in utility plant and equipment. These reinvested earnings
14 increase the earnings base (rate base). Earnings grow when plant funded by
15 reinvested earnings is put into service, and the utility is allowed to earn its authorized
16 return on such additional rate base investment.

17 The internal growth methodology is tied to the percentage of earnings retained
18 in the company and not paid out as dividends. The earnings retention ratio is 1 minus
19 the dividend payout ratio. As the payout ratio declines, the earnings retention ratio
20 increases. An increased earnings retention ratio will fuel stronger growth because
21 the business funds more investments with retained earnings.

22 The payout ratios of the proxy group are shown in my Exhibit CCW-8.
23 Dividend payout ratios and earnings retention ratios then can be used to develop a

¹²*Blue Chip Economic Indicators*, March 10, 2018, at 14.

1 sustainable long-term earnings retention growth rate. A sustainable long-term
2 earnings retention ratio will help gauge whether analysts' current three- to five-year
3 growth rate projections can be sustained over an indefinite period of time.

4 The data used to estimate the long-term sustainable growth rate is based on
5 the Company's current market-to-book ratio and on *Value Line's* three- to five-year
6 projections of earnings, dividends, earned returns on book equity, and stock
7 issuances.

8 As shown in Exhibit CCW-9, the average sustainable growth rate for the proxy
9 group using this internal growth rate model is 4.89%.

10 **Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM**
11 **GROWTH RATES?**

12 A A DCF estimate based on these sustainable growth rates is developed in Exhibit
13 CCW-10. As shown there, and using the same formula in Equation 2 above, a
14 sustainable growth DCF analysis produces proxy group average and median DCF
15 results for the 13-week period of 8.64% and 8.05%, respectively.

16 **IV.D. Multi-Stage Growth DCF Model**

17 **Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?**

18 A Yes. My first constant growth DCF is based on consensus analysts' growth rate
19 projections so it is a reasonable reflection of rational investment expectations over the
20 next three to five years. A limitation of the constant growth DCF model is that it
21 cannot reflect a rational expectation that a period of high or low short-term growth can
22 be followed by a change in growth to a rate that is more reflective of long-term

sustainable growth. Because of this inherent limitation, I also performed a multi-stage growth DCF analysis to reflect this outlook of changing growth expectations.

Q WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?

A Analyst-projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies go through cycles of making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which in turn accelerates earnings growth. Once a major construction cycle is completed or levels off, growth in the utility rate base slows and its earnings growth slows from an abnormally high three- to five-year rate to a lower sustainable growth rate.

As major construction cycles extend over longer periods of time, even with an accelerated construction program, the growth rate of the utility will slow simply because rate base growth will slow and the utility has limited human and capital resources available to expand its construction program. Therefore, the three- to five-year growth rate projection should be used as a long-term sustainable growth rate but not without making a reasonable informed judgment to determine whether it considers the current market environment, the industry, and whether the three- to five-year growth outlook is sustainable.

Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

A The multi-stage growth DCF model reflects the possibility of non-constant growth for a company over time. The multi-stage growth DCF model reflects three growth periods: (1) a short-term growth period consisting of the first five years; (2) a transition period, consisting of the next five years (6 through 10); and (3) a long-term growth period starting in year 11 through perpetuity.

1 For the short-term growth period, I relied on the consensus analysts' growth
2 projections described above in relationship to my constant growth DCF model. For
3 the transition period, the growth rates were reduced or increased by an equal factor
4 reflecting the difference between the analysts' growth rates and the long-term
5 sustainable growth rate. For the long-term growth period, I assumed each company's
6 growth would converge to the maximum sustainable long-term growth rate.

7 **Q WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE**
8 **MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?**

9 A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the
10 economy in which they sell services. Utilities' earnings/dividend growth is created by
11 increased utility investment or rate base. Such investment, in turn, is driven by
12 service area economic growth and demand for utility service. In other words, utilities
13 invest in plant to meet sales demand growth. Sales growth, in turn, is tied to
14 economic growth in their service areas.

15 The U.S. Department of Energy, Energy Information Administration ("EIA")
16 has observed utility sales growth tracks the U.S. GDP growth, albeit at a lower level,
17 as shown in Exhibit CCW-11. Utility sales growth has lagged behind GDP growth for
18 more than a decade. As a result, nominal GDP growth is a very conservative proxy
19 for utility sales growth, rate base growth, and earnings growth. Therefore, the U.S.
20 GDP nominal growth rate is a conservative proxy for the highest sustainable
21 long-term growth rate of a utility.

1 Q IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE
2 LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT
3 A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?

4 A Yes. This concept is supported in published analyst literature and academic work.
5 Specifically, in a textbook titled "Fundamentals of Financial Management," published
6 by Eugene Brigham and Joel F. Houston, the authors state as follows:

7 The constant growth model is most appropriate for mature companies
8 with a stable history of growth and stable future expectations.
9 Expected growth rates vary somewhat among companies, but
10 dividends for mature firms are often expected to grow in the future at
11 about the same rate as nominal gross domestic product (real GDP
12 plus inflation).¹³

13 The use of the economic growth rate is also supported by investment
14 practitioners as outlined as follows:

15 Estimating Growth Rates

16 One of the advantages of a three-stage discounted cash flow model is
17 that it fits with life cycle theories in regards to company growth. In
18 these theories, companies are assumed to have a life cycle with
19 varying growth characteristics. Typically, the potential for extraordinary
20 growth in the near term eases over time and eventually growth slows
21 to a more stable level.

22 * * *

23 Another approach to estimating long-term growth rates is to focus on
24 estimating the overall economic growth rate. Again, this is the
25 approach used in the *Ibbotson Cost of Capital Yearbook*. To obtain
26 the economic growth rate, a forecast is made of the growth rate's
27 component parts. Expected growth can be broken into two main parts:
28 expected inflation and expected real growth. By analyzing these
29 components separately, it is easier to see the factors that drive
30 growth.¹⁴

¹³"Fundamentals of Financial Management," Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298, emphasis added.

¹⁴Morningstar, Inc., *Ibbotson SBBI 2013 Valuation Yearbook* at 51 and 52.

1 **Q IS THERE ANY ACTUAL INVESTMENT HISTORY THAT SUPPORTS THE**
2 **NOTION THAT THE CAPITAL APPRECIATION FOR STOCK INVESTMENTS WILL**
3 **NOT EXCEED THE NOMINAL GROWTH OF THE U.S. GDP?**

4 **A**Yes. This is evident by a comparison of the compound annual growth, or geometric
5 average growth, of the U.S. GDP compared to the compound annual growth of the
6 U.S. stock market. Duff & Phelps measured the historical geometric growth of the
7 U.S. stock market over the period 1926-2017 to be approximately 6.0%.¹⁵ During this
8 same time period, the U.S. nominal compound annual growth of the U.S. GDP was
9 approximately 6.4%.¹⁶

10 As such, the geometric average growth of the U.S. nominal GDP has been
11 higher but comparable to the average geometric growth of the U.S. stock market
12 capital appreciation. This historical relationship indicates that the U.S. GDP growth
13 outlook is a conservative estimate of the long-term sustainable growth of U.S. stock
14 investments.

15 **Q WHAT IS THE GEOMETRIC AVERAGE AND WHY IS IT APPROPRIATE TO USE**
16 **THIS MEASURE TO COMPARE GDP GROWTH TO CAPITAL APPRECIATION IN**
17 **THE STOCK MARKET?**

18 **A**The geometric average growth rate and compound annual growth rate are used
19 interchangeably. The geometric annual growth rate is the calculated growth rate, or
20 return, that measures the magnitude of growth from start to finish. The geometric
21 mean is best, and most often, used as a measurement of performance or growth over
22 a long period of time.¹⁷ Because I am comparing achieved growth in the stock market

¹⁵*Duff & Phelps, 2018 SBBi Yearbook* at 6-17.

¹⁶U.S. Bureau of Economic Analysis, February 28, 2018.

¹⁷*New Regulatory Finance*, Roger Morin, PhD, at 133-134.

1 to achieved growth in U.S. GDP over a long period of time, the geometric average
2 growth rate is most appropriate.

3 **Q HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH RATE**
4 **THAT REFLECTS THE CURRENT CONSENSUS OUTLOOK OF THE MARKET?**

5 A I relied on the economic consensus of long-term GDP growth projections. *Blue Chip*
6 *Economic Indicators* publishes the consensus for GDP growth projections twice a
7 year. These GDP growth outlooks are the best available measure of the market's
8 assessment of long-term GDP growth. These analyst projections reflect all current
9 outlooks for GDP and are likely the most influential on investors' expectations of
10 future growth outlooks. The consensus projections published GDP growth rate
11 outlook is 4.20% over the next 10 years.¹⁸

12 Therefore, I propose to use the consensus for projected 5- and 10-year
13 average GDP growth rates of 4.20%, as published by *Blue Chip Economic Indicators*,
14 as an estimate of long-term sustainable growth. *Blue Chip Economic Indicators*
15 projections provide real GDP growth projections of 2.0% and GDP inflation of 2.1%¹⁹
16 over the 5-year and 10-year projection periods, rounded to 4.2% on the nominal
17 projections. These GDP growth forecasts represent the most likely views of market
18 participants because they are based on published economic consensus projections.

¹⁸*Blue Chip Economic Indicators*, March 10, 2018, at 14.

¹⁹*Id.*

1 Q DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP
2 GROWTH?

3 A Yes, and these sources corroborate my use of the consensus projections, as shown
4 below in Table 7.

TABLE 7				
<u>GDP Forecasts</u>				
<u>Source</u>	<u>Term</u>	<u>Real GDP</u>	<u>Inflation</u>	<u>Nominal GDP</u>
Blue Chip Economic Indicators	5-10 Yrs	2.0%	2.1%	4.2%
EIA - Annual Earnings Outlook	28 Yrs	2.0%	2.3%	4.4%
Congressional Budget Office	6 Yrs	1.8%	2.1%	4.0%
Moody's Analytics	25 Yrs	2.0%	1.8%	3.8%
Social Security Administration	49 Yrs			4.4%
The Economist Intelligence Unit	25 Yrs	1.9%	1.8%	3.7%

5 The EIA in its *Annual Energy Outlook* projects real GDP out until 2050. In its
6 2018 Annual Report, the EIA projects real GDP through 2050 to be 2.0% and a
7 long-term GDP price inflation projection of 2.3%. The EIA data supports a long-term
8 nominal GDP growth outlook of 4.4%.²⁰

9 Also, the Congressional Budget Office ("CBO") makes long-term economic
10 projections. The CBO is projecting real GDP growth to be 1.8% during the next
11 6 years, with a GDP price inflation outlook of 2.1%. The CBO 6-year outlook for
12 nominal GDP based on this projection is 4.0%.²¹

13 Moody's Analytics also makes long-term economic projections. In its recent
14 25-year outlook to 2047, Moody's Analytics is projecting real GDP growth of 2.0%

²⁰DOE/EIA Annual Energy Outlook 2018 With Projections to 2050, February 2018, Table 20.

²¹CBO: *The Budget and Economic Outlook: 2017 to 2027*, April 2018, downloaded April 17, 2018.

1 with GDP inflation of 1.8%.²² Based on these projections, Moody's is projecting
2 nominal GDP growth of 3.8% over the next 25 years.

3 The Social Security Administration ("SSA") makes long-term economic
4 projections out to 2095. The SSA's nominal GDP projection, under its "intermediate
5 cost" scenario of approximately 50 years, is 4.4%.²³

6 The Economist Intelligence Unit, a division of *The Economist* and a third-party
7 data provider to MI, makes a long-term economic projection out to 2050. The
8 Economist Intelligence Unit is projecting real GDP growth of 1.9% with an inflation
9 rate of 1.8% out to 2050. The real GDP growth projection is in line with the
10 consensus. The long-term nominal GDP projection based on these outlooks is
11 approximately 3.7%.²⁴

12 The real GDP and nominal GDP growth projections made by these
13 independent sources support the use of the consensus for 5-year and 10-year
14 projected GDP growth outlooks as a reasonable estimate of market participants'
15 long-term GDP growth.

16 **Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR**
17 **MULTI-STAGE GROWTH DCF ANALYSIS?**

18 A I relied on the same 13-week average stock prices and the most recent quarterly
19 dividend payment data discussed above. For stage one growth, I used the
20 consensus of analysts' growth rate projections discussed above in my constant
21 growth DCF model. The first stage covers the first five years, consistent with the time
22 horizon of the securities analysts' growth rate projections. The second stage, or

²²www.economy.com, *Moody's Analytics Forecast*, January 24, 2018.

²³www.ssa.gov, "2017 OASDI Trustees Report," Table VI.G4.

²⁴S&P Global Market Intelligence, *Economist Intelligence Unit*, downloaded on March 14, 2018.

transition stage, begins in year 6 and extends through year 10. The second stage growth transitions the growth rate from the first stage to the third stage using a straight linear trend. For the third stage, or long-term sustainable growth stage, starting in year 11, I used a 4.20% long-term sustainable growth rate based on the consensus long-term projected nominal GDP growth rate.

Q WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF MODEL?

A As shown in Exhibit CCW-12, the average and median DCF returns on equity for my proxy group using the 13-week average stock price are 8.19% and 8.13%, respectively.

Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

A The results from my DCF analyses are summarized in Table 8 below:

TABLE 8		
<u>Summary of DCF Results</u>		
<u>Description</u>	<u>Proxy Group</u>	
	<u>Average</u>	<u>Median</u>
Constant Growth DCF Model (Analysts' Growth)	9.10%	9.31%
Constant Growth DCF Model (Sustainable Growth)	8.64%	8.05%
Multi-Stage Growth DCF Model	8.19%	8.13%

Based on these results, I conclude that my DCF analysis indicates a cost of equity of 9.10%. I primarily relied on the results of my constant growth analysis, but also considered the results of my sustainable growth and multi-stage growth models.

IV.E. Risk Premium Model

Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

A This model is based on the principle that investors require a higher return to assume greater risk. Common equity investments have greater risk than bonds because bonds have more security of payment in bankruptcy proceedings than common equity and the coupon payments on bonds represent contractual obligations. In contrast, companies are not required to pay dividends or guarantee returns on common equity investments. Therefore, common equity securities are considered to be riskier than bond securities.

This risk premium model is based on two estimates of an equity risk premium. First, I estimated the difference between authorized returns on common equity and U.S. Treasury bonds. The difference between the authorized return on common equity and the Treasury bond yield is the risk premium. I estimated the risk premium on an annual basis for each year over since January 1986. The authorized returns on equity were based on regulatory commission-authorized returns for electric utility companies. Authorized returns are typically based on expert witnesses' estimates of the investor-required return at the time of the proceeding.

The second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary "A" rated utility bond yields by Moody's. I selected the period 1986 through March 2018 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Exhibit CCW-13, which shows the market-to-book ratio since 1986 for the electric utility industry was consistently above a multiple of 1.0x. Over this period, an analyst can infer that authorized returns on equity were sufficient to support market prices that at least exceeded book value.

1 This is an indication that commission authorized returns on common equity supported
2 a utility's ability to issue additional common stock without diluting existing shares. It
3 further demonstrates utilities were able to access equity markets without a detrimental
4 impact on current shareholders.

5 Based on this analysis, as shown in Exhibit CCW-14, the average indicated
6 equity risk premium over U.S. Treasury bond yields has been 5.54%. Since the risk
7 premium can vary depending upon market conditions and changing investor risk
8 perceptions, I believe using an estimated range of risk premiums provides the best
9 method to measure the current return on common equity for a risk premium
10 methodology.

11 I incorporated five-year and 10-year rolling average risk premiums over the
12 study period to gauge the variability over time of risk premiums. These rolling
13 average risk premiums mitigate the impact of anomalous market conditions and
14 skewed risk premiums over an entire business cycle. As shown on my Exhibit
15 CCW-14, the five-year rolling average risk premium over Treasury bonds ranged from
16 4.25% to 6.72%, while the 10-year rolling average risk premium ranged from 4.38%
17 to 6.57%.

18 As shown on my Exhibit CCW-15, the average indicated equity risk premium
19 over contemporary Moody's utility bond yields was 4.18%. The five-year and 10-year
20 rolling average risk premiums ranged from 2.88% to 5.57% and 3.20% to 5.35%,
21 respectively.

1 **Q DO YOU BELIEVE THAT THE TIME PERIOD USED TO DERIVE THESE EQUITY**
2 **RISK PREMIUM ESTIMATES IS APPROPRIATE TO FORM ACCURATE**
3 **CONCLUSIONS ABOUT CONTEMPORARY MARKET CONDITIONS?**

4 A Yes. Contemporary market conditions can change dramatically during the period that
5 rates determined in this proceeding will be in effect. A relatively long period of time
6 where stock valuations reflect premiums to book value is an indication the authorized
7 returns on equity and the corresponding equity risk premiums were supportive of
8 investors' return expectations and provided utilities access to the equity markets
9 under reasonable terms and conditions. Further, this time period is long enough to
10 smooth abnormal market movement that might distort equity risk premiums. While
11 market conditions and risk premiums do vary over time, this historical time period is a
12 reasonable period to estimate contemporary risk premiums.

13 Alternatively, some studies, such as Duff & Phelps referred to later in this
14 testimony, have recommended that use of "actual achieved investment return data" in
15 a risk premium study should be based on long historical time periods. The studies
16 find that achieved returns over short time periods may not reflect investors' expected
17 returns due to unexpected and abnormal stock price performance. Short-term,
18 abnormal actual returns would be smoothed over time and the achieved actual
19 investment returns over long time periods would approximate investors' expected
20 returns. Therefore, it is reasonable to assume that averages of annual achieved
21 returns over long time periods will generally converge on the investors' expected
22 returns.

23 My risk premium study is based on data that inherently relied on investor
24 expectations, not actual investment returns, and, thus, need not encompass a very
25 long historical time period.

1 **Q BASED ON THIS DATA, WHAT RISK PREMIUM HAVE YOU USED TO ESTIMATE**
2 **OG&E'S COST OF COMMON EQUITY IN THIS PROCEEDING?**

3 A The equity risk premium should reflect the relative market perception of risk in the
4 utility industry today. I have gauged investor perceptions in utility risk today in Exhibit
5 CCW-16, where I show the yield spread between utility bonds and Treasury bonds
6 over the last 38 years. As shown in this exhibit, the average utility bond yield spreads
7 over Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are
8 1.50% and 1.93%, respectively. Yield spreads of "A" and "Baa" rated utility bonds
9 over Treasury bonds during 2017 were 1.10% and 1.48%, respectively, which are
10 lower than the 38-year averages.

11 A current 13-week average "A" rated utility bond yield of 4.05% when
12 compared to the current Treasury bond yield of 3.05%, as shown in Exhibit CCW-17,
13 page 1, implies a yield spread of 100 basis points. This current utility bond yield
14 spread is lower than the 38-year average spread for "A" rated utility bonds of 1.50%.
15 The current spread for the "Baa" rated utility bond yield of 136 basis points is also
16 lower than the 38-year average spread of 1.93%.

17 These utility bond yield spreads are evidence that the market perception of
18 utility risk is below average relative to the historical time period and demonstrate that
19 utilities continue to have strong access to capital in the current market.

20 **Q WHAT IS YOUR RECOMMENDED RETURN FOR OG&E BASED ON YOUR RISK**
21 **PREMIUM STUDY?**

22 A Because of today's relatively low level of interest rates and uncertainty revolving
23 around forecasted interest rates, I am recommending more weight be given to the
24 high-end risk premium estimates than the low-end in order to be conservative. To
25 calculate the equity risk premium estimate, I applied 75% weight to my high-end risk

premium estimates and 25% to the low-end. Applying these weights, the risk premium for Treasury bond yields would be approximately 6.1%,²⁵ which is considerably higher than the 33-year average risk premium of 5.54% and reasonably reflective of the 3.8% projected Treasury bond yield. An equity risk premium of 6.1% added to the projected Treasury bond yield of 3.8% produces an estimated cost of equity of 9.9%.

Similarly, applying these weights to the utility risk premium indicates a risk premium of 4.9%.²⁶ This risk premium is above the 33-year historical average risk premium of 4.18%. Adding this risk premium to the current observable A- rated and Baa-rated utility bond yields of 4.05% and 4.41%, respectively, produces an estimated cost of equity in the range of approximately 9.0% to 9.3%, with a midpoint of approximately 9.2%.

Based on this methodology, my Treasury bond risk premium and my utility bond risk premium indicate a return in the range of 9.2% to 9.9%, with a midpoint of 9.6%.

IV.F. Capital Asset Pricing Model ("CAPM")

Q PLEASE DESCRIBE THE CAPM.

A The CAPM method of analysis is based upon the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:

$$R_i = R_f + B_i \times (R_m - R_f) \text{ where:}$$

R_i = Required return for stock i

R_f = Risk-free rate

²⁵(4.25% * 25%) + (6.72% * 75%) = 6.10%.

²⁶(2.88% * 25%) + (5.57% * 75%) = 4.90%.

1 R_m = Expected return for the market portfolio
2 B_i = Beta - Measure of the risk for stock

3 The stock-specific risk term in the above equation is beta. Beta represents
4 the investment risk that cannot be diversified away when the security is held in a
5 diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks
6 can be eliminated by balancing the portfolio with securities that react in the opposite
7 direction to firm-specific risk factors (e.g., business cycle, competition, product mix,
8 and production limitations).

9 The risks that cannot be eliminated when held in a diversified portfolio are
10 non-diversifiable risks. Non-diversifiable risks are related to the market in general
11 and referred to as systematic risks. Risks that can be eliminated by diversification are
12 non-systematic risks. In a broad sense, systematic risks are market risks and
13 non-systematic risks are business risks. The CAPM theory suggests the market will
14 not compensate investors for assuming risks that can be diversified away. Therefore,
15 the only risk investors will be compensated for are systematic, or non-diversifiable,
16 risks. The beta is a measure of the systematic, or non-diversifiable risks.

17 **Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.**

18 A The CAPM requires an estimate of the market risk-free rate, the Company's beta, and
19 the market risk premium.

20 **Q WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?**

21 A As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond
22 yield is 3.80%.²⁷ The current 30-year Treasury bond yield is 3.05%, as shown in

²⁷*Blue Chip Financial Forecasts*, April 1, 2018 at 2.

1 Exhibit CCW-17. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury
2 bond yield of 3.80% for my CAPM analysis.

3 **Q WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE**
4 **OF THE RISK-FREE RATE?**

5 A Treasury securities are backed by the full faith and credit of the United States
6 government so long-term Treasury bonds are considered to have negligible credit
7 risk. Also, long-term Treasury bonds have an investment horizon similar to that of
8 common stock. As a result, investor-anticipated long-run inflation expectations are
9 reflected in both common stock required returns and long-term bond yields.
10 Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate)
11 included in a long-term bond yield is a reasonable estimate of the nominal risk-free
12 rate included in common stock returns.

13 Treasury bond yields, however, do include risk premiums related to
14 unanticipated future inflation and interest rates. A Treasury bond yield is not a
15 risk-free rate. Risk premiums related to unanticipated inflation and interest rates
16 reflect systematic market risks. Consequently, for companies with betas less than
17 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM
18 analysis can produce an overstated estimate of the CAPM return.

19 **Q WHAT BETA DID YOU USE IN YOUR ANALYSIS?**

20 A As shown in Exhibit CCW-18, the proxy group average *Value Line* beta estimate is
21 0.73.

1 **Q HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?**

2 A I derived two market risk premium estimates: a forward-looking estimate and one
3 based on a long-term historical average.

4 The forward-looking estimate was derived by estimating the expected return
5 on the market (as represented by the S&P 500) and subtracting the risk-free rate from
6 this estimate. I estimated the expected return on the S&P 500 by adding an expected
7 inflation rate to the long-term historical arithmetic average real return on the market.
8 The real return on the market represents the achieved return above the rate of
9 inflation.

10 Duff & Phelps' *2018 SBBI Yearbook* estimates the historical arithmetic
11 average real market return over the period 1926 to 2017 to be 9.0%.²⁸ A current
12 consensus for projected inflation, as measured by the Consumer Price Index, is
13 2.3%.²⁹ Using these estimates, the expected market return is 11.5%.³⁰ The market
14 risk premium then is the difference between the 11.5% expected market return and
15 my 3.8% risk-free rate estimate, or 7.7%.

16 My historical estimate of the market risk premium was also calculated by using
17 data provided by Duff & Phelps in its *2018 SBBI Yearbook*. Over the period 1926
18 through 2017, the Duff & Phelps study estimated that the arithmetic average of the
19 achieved total return on the S&P 500 was 12.1%³¹ and the total return on long-term
20 Treasury bonds was 6.00%.³² The indicated market risk premium is 6.1% (12.1% -
21 6.0% = 6.1%).

²⁸*Duff & Phelps, 2018 SBBI Yearbook* at 6-18.

²⁹*Blue Chip Financial Forecasts*, April 1, 2018 at 2.

³⁰ $\{ [(1 + 0.090) * (1 + 0.023)] - 1 \} * 100$.

³¹*Duff & Phelps, 2018 Yearbook* at 6-17.

³²*Id.*

1 The long-term government bond yield of 6.0% occurred during a period of
2 inflation of around 3.0%, thus implying a real return on long-term government bonds
3 of around 3.0%.

4 **Q HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO**
5 **THAT ESTIMATED BY DUFF & PHELPS?**

6 A The Duff & Phelps analysis indicates a market risk premium falls somewhere in the
7 range of 5.0% to 7.1%. My market risk premium falls in the range of 6.1% to 7.7%.
8 My average market risk premium of 6.9% is at the high end of the Duff & Phelps
9 range.

10 **Q HOW DOES DUFF & PHELPS MEASURE A MARKET RISK PREMIUM?**

11 A Duff & Phelps makes several estimates of a forward-looking market risk premium
12 based on actual achieved data from the historical period of 1926 through 2017 as well
13 as normalized data. Using this data, Duff & Phelps estimates a market risk premium
14 derived from the total return on large company stocks (S&P 500), less the income
15 return on Treasury bonds. The total return includes capital appreciation, dividend or
16 coupon reinvestment returns, and annual yields received from coupons and/or
17 dividend payments. The income return, in contrast, only reflects the income return
18 received from dividend payments or coupon yields. Duff & Phelps claims the income
19 return is the only true risk-free rate associated with Treasury bonds and is the best
20 approximation of a truly risk-free rate.³³ I disagree with this assessment from Duff &
21 Phelps because it does not reflect a true investment option available to the
22 marketplace and therefore does not produce a legitimate estimate of the expected
23 premium of investing in the stock market versus that of Treasury bonds.

³³*Duff & Phelps 2017 Valuation Handbook* at 3-32.

1 Nevertheless, I will use Duff & Phelps' conclusion to show the reasonableness of my
2 market risk premium estimates.

3 Duff & Phelps' range is based on several methodologies. First, Duff & Phelps
4 estimates a market risk premium of 7.07% based on the difference between the total
5 market return on common stocks (S&P 500) less the income return on 20-year
6 Treasury bond investments over the 1926-2017 period.³⁴

7 Second, Duff & Phelps used the Ibbotson & Chen supply-side model which
8 produced a market risk premium estimate of 6.04%.³⁵ In the previous edition of the
9 Valuation Handbook, Duff & Phelps explained that the historical market risk premium
10 based on the S&P 500 was influenced by an abnormal expansion of price-to-earnings
11 ("P/E") ratios relative to earnings and dividend growth during the period, primarily over
12 the last 30 years. Duff & Phelps believes this abnormal P/E expansion is not
13 sustainable.³⁶ Therefore, Duff & Phelps adjusted this market risk premium estimate
14 to normalize the growth in the P/E ratio to be more in line with the growth in dividends
15 and earnings.

16 Finally, Duff & Phelps develops its own recommended equity, or market, risk
17 premium by employing an analysis that takes into consideration a wide range of
18 economic information, multiple risk premium estimation methodologies, and the
19 current state of the economy by observing measures such as the level of stock
20 indices and corporate spreads as indicators of perceived risk. Based on this
21 methodology, and utilizing a "normalized" risk-free rate of 3.5%, Duff & Phelps
22 concludes the current expected, or forward-looking, market risk premium is 5.0%,
23 implying an expected return on the market of 8.5%.³⁷

³⁴ *Duff & Phelps 2018 Valuation Handbook* at 3-1 and 3-2.

³⁵ *Id.*

³⁶ *Duff & Phelps 2017 Valuation Handbook* at 3-36.

³⁷ *Duff & Phelps 2018 Valuation Handbook* at 3-1 and 3-2.

1 It should be noted that Duff & Phelps' market risk premiums are measured
2 over a 20-year Treasury bond. Because I am relying on a projected 30-year Treasury
3 bond yield, the results of my CAPM analysis should be considered conservative
4 estimates for the cost of equity.

5 **Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?**

6 A As shown in Exhibit CCW-19 based on my low market risk premium of 6.1% and my
7 high market risk premium of 7.7%, a risk-free rate of 3.8%, and a beta of 0.73, my
8 CAPM analysis produces a return of approximately 8.2% to 9.4%. Based on my
9 assessment of risk premiums in the current market, as discussed above, I
10 recommend the high-end CAPM return estimate because it closely aligns the market
11 risk premium with the prevailing risk-free rate. I recommend a CAPM return of 9.4%.

12 **IV.G. Return on Equity Summary**

13 **Q BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY**
14 **ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO**
15 **YOU RECOMMEND FOR OG&E?**

16 A Based on my analyses, I estimate OG&E's current market cost of equity to be 9.35%.

TABLE 9	
<u>Return on Common Equity Summary</u>	
<u>Description</u>	<u>Results</u>
DCF	9.10%
Risk Premium	9.60%
CAPM	9.40%

1 My recommended return on common equity of 9.35% is the midpoint of my
2 estimated range of 9.1% to 9.6%. My return on equity estimates reflect observable
3 market evidence, the impact of Federal Reserve policies on current and expected
4 long-term capital market costs, an assessment of the current risk premium built into
5 current market securities, and a general assessment of the current investment risk
6 characteristics of the electric utility industry and the market's demand for utility
7 securities.

8 **IV.H. Financial Integrity**

9 **Q WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT AN**
10 **INVESTMENT GRADE BOND RATING FOR OG&E?**

11 **A Yes.** I have reached this conclusion by comparing the key credit rating financial
12 ratios for OG&E at my proposed return on equity and the Company's proposed
13 capital structure to S&P's benchmark financial ratios using S&P's credit metric
14 ranges.

1 **Q PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT**
2 **METRIC METHODOLOGY.**

3 A S&P publishes a matrix of financial ratios corresponding to its assessment of the
4 business risk of utility companies and related bond ratings. On May 27, 2009, S&P
5 expanded its matrix criteria by including additional business and financial risk
6 categories.³⁸

7 Based on S&P's most recent credit matrix, the business risk profile categories
8 are "Excellent," "Strong," "Satisfactory," "Fair," "Weak," and "Vulnerable." Most
9 utilities have a business risk profile of "Excellent" or "Strong."

10 The financial risk profile categories are "Minimal," "Modest," "Intermediate,"
11 "Significant," "Aggressive," and "Highly Leveraged." Most utilities have a financial risk
12 profile of "Aggressive." OG&E has an "Excellent" business risk profile and an
13 "Intermediate" financial risk profile.

14 **Q PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK RATIOS IN**
15 **ITS CREDIT RATING REVIEW.**

16 A S&P evaluates a utility's credit rating based on an assessment of its financial and
17 business risks. A combination of financial and business risks equates to the overall
18 assessment of a company's total credit risk. On November 19, 2013, S&P updated
19 its methodology. In its update, S&P published a matrix of financial ratios that defines
20 the level of financial risk as a function of the level of business risk.

21 S&P publishes ranges for primary financial ratios that it uses as guidance in its
22 credit review for utility companies. The two core financial ratio benchmarks it relies
23 on in its credit rating process include: (1) Debt to Earnings Before Interest, Taxes,

³⁸S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's RatingsDirect*. "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

1 Depreciation and Amortization ("EBITDA"); and (2) Funds From Operations ("FFO") to
2 Total Debt.³⁹

3 **Q HOW DID YOU APPLY S&P'S FINANCIAL RATIOS TO TEST THE**
4 **REASONABLENESS OF YOUR RATE OF RETURN RECOMMENDATIONS?**

5 A I calculated each of S&P's financial ratios based on OG&E's cost of service for its
6 retail operations in its Oklahoma jurisdiction. While S&P would normally look at total
7 consolidated OG&E financial ratios in its credit review process, my investigation in
8 this proceeding is not the same as S&P's. I am attempting to judge the
9 reasonableness of my proposed cost of capital for rate-setting in OG&E's retail
10 regulated utility operations. Hence, I am attempting to determine if my proposed rate
11 of return will provide sufficient cash flow, balance sheet strength, and earnings that
12 will support an investment grade bond rating and OG&E's financial integrity.

13 **Q DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT EQUIVALENTS?**

14 A Yes, I did. Because OG&E's capital structure is based on total company capital, I
15 have included the entire amount of off-balance sheet debt equivalents as reported by
16 S&P Capital IQ. The most recently reported three-year average debt adjustments
17 made by S&P, including short-term debt, is approximately \$351 million.

18 I also included an allocated amount of the imputed interest and depreciation
19 expenses associated with the reported debt equivalents. To allocate the proper
20 amount of the associated imputed interest and depreciation adjustments, I developed
21 an allocation factor of approximately 89.8%, based on the Company's Oklahoma
22 jurisdiction rate base relative to total OG&E rate base as shown on Company

³⁹*Standard & Poor's RatingsDirect*. "Criteria: Corporate Methodology," November 19, 2013.

1 Schedule B-2.⁴⁰ I multiplied this allocation factor by the total reported imputed
2 depreciation and interest adjustments made by S&P to allocate a fair amount to
3 OG&E's Oklahoma retail operations as shown on page 1 of my Exhibit CCW-20.

4 **Q DID YOU INCLUDE ANY OTHER ADJUSTMENTS TO OG&E'S CASH FLOWS TO**
5 **ASSESS ITS OVERALL FINANCIAL INTEGRITY?**

6 A Yes. To produce a more accurate assessment of the impacts to OG&E's financial
7 integrity as a result of FEA's adjustments, I also reduced OG&E's proposed
8 depreciation expense by approximately \$25.0 million to account for the depreciation
9 expense adjustment being proposed by my colleague, Mr. Brian C. Andrews.

10 **Q PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS AS IT**
11 **RELATES TO OG&E.**

12 A The S&P credit metric calculations for OG&E at a 9.35% return on equity are
13 developed on Exhibit CCW-20, page 1. The credit metrics produced below, with
14 OG&E's financial risk profile from S&P of "Intermediate" and business risk score by
15 S&P of "Excellent," will be used to assess the strength of the credit metrics based on
16 OG&E's retail operations in the state of Oklahoma.

17 OG&E's adjusted total debt ratio, based on its requested capital structure is
18 approximately 49.4%. As shown on Exhibit CCW-20, this adjusted debt ratio is
19 reasonably consistent with the adjusted debt ratios for A-rated utilities. Hence, I
20 concluded this capital structure reasonably supports OG&E's current investment
21 grade bond rating.

22 Based on an equity return of 9.35%, OG&E will be provided an opportunity to
23 produce a debt to Earnings Before Interest, Taxes, Depreciation and Amortization

⁴⁰Company Schedule B-2.

1 (“EBITDA”) ratio of 3.2x. This is within S&P’s “Intermediate” guideline range of 2.5x
2 to 3.5x.⁴¹ This ratio supports OG&E’s “Intermediate” financial risk profile.

3 OG&E’s retail operations FFO to total debt coverage at a 9.35% equity return
4 is 24%, which is within S&P’s “Intermediate” metric guideline range of 23% to 35%.
5 This FFO/total debt ratio will support OG&E’s “Intermediate” financial risk profile.

6 At my recommended return on equity of 9.35% and Mr. Andrews’ adjusted
7 depreciation expense in conjunction with the Company’s proposed capital structure,
8 OG&E’s financial credit metrics will continue to support OG&E’s financial integrity.

9 **V. RESPONSE TO DR. MORIN**

10 **Q WHAT RATE OF RETURN ON COMMON EQUITY IS OG&E REQUESTING IN**
11 **THIS PROCEEDING?**

12 A OG&E is requesting a return on common equity of 9.9%, which is the average of Dr.
13 Morin’s range of results. Dr. Morin’s results fall in the range of 9.3% to 10.7%.⁴²

14 **Q PLEASE DESCRIBE HOW DR. MORIN DEVELOPED HIS MARKET COST OF**
15 **EQUITY FOR OG&E.**

16 A Dr. Morin used a DCF model, a CAPM, an Empirical CAPM (“ECAPM”), and a risk
17 premium study to support his return on equity estimate for OG&E. Dr. Morin
18 employed these models to a group of utilities followed by *Value Line*.

19 His estimated return on equity results for OG&E are shown below in Table 10
20 under Column 1. Under Column 2, I show adjustments to Dr. Morin’s return
21 estimates.

⁴¹*Id.*

⁴²Morin Direct Testimony at 50.

TABLE 10

Summary of Dr. Morin's Return on Equity Estimates

Description	Morin Results (1)	Adjusted (2)
<u>Constant Growth DCF</u>		
Value Line Growth	9.3%	9.1%-9.2%
Analysts' Growth	9.3%	8.7%-9.1%
<u>CAPM</u>		
Traditional CAPM	9.6%	8.7%
Empirical CAPM	<u>10.1%</u>	<u>9.3%</u>
Average CAPM	9.9%	9.0%
<u>Risk Premium</u>		
Historical Risk Premium	10.7%	9.3%
Allowed Risk Premium	<u>10.5%</u>	<u>9.3%</u>
Average Risk Premium	10.6%	9.3%
Range	9.3% - 10.7%	8.7%-9.3%
Recommended Return on Equity	9.9%	9.35%

Source: Morin Direct Testimony at 50.

With reasonable adjustments described in detail below, Dr. Morin's analyses will support my recommended return of equity for OG&E of 9.35%.

V.A. Flotation Costs

Q DID DR. MORIN INCLUDE A FLOTATION COST ADJUSTMENT IN HIS RECOMMENDED RETURN FOR OG&E?

A Yes. Dr. Morin asserts that it is appropriate to include a flotation cost adjustment to historical equity issues regardless of whether the utility is planning on issuing additional shares of stock, or not, to support his position. Hence, he grows his proxy group's average dividend yield by a flotation cost of 5%. This produces a

1 flotation-adjusted cost of equity estimate that is approximately 20 basis points higher.
2 This flotation cost adjustment is intended to recover the actual cost a utility incurs by
3 issuing additional stock to the public.

4 **Q WHY IS DR. MORIN'S FLOTATION COST ADJUSTMENT FLAWED?**

5 A Dr. Morin's flotation cost adjustment is not based on the recovery of prudent and
6 reasonable flotation expenses for OG&E. Rather, as discussed at pages 45-49 of
7 Dr. Morin's direct testimony, he derives a flotation cost adjustment based on generic
8 cost information. Because he does not show that his adjustment is based on OG&E's
9 actual and verifiable flotation expenses, there are no means of verifying whether Dr.
10 Morin's proposal is reasonable or appropriate. Stated differently, Dr. Morin's flotation
11 cost adder is not based on known and measurable OG&E costs. Additionally, about
12 70% of OG&E's equity capital comes from retained earnings, which do not incur
13 flotation expenses. Therefore, the Commission should reject Dr. Morin's proposed
14 flotation expense adjustment of approximately 20 basis points.

15 **V.B. Dr. Morin's DCF Analyses**

16 **Q PLEASE DESCRIBE DR. MORIN'S DCF ANALYSES.**

17 A Dr. Morin performed two constant growth DCF analyses on a group of integrated
18 electric utilities followed by *Value Line*, using *Value Line*'s projected growth rates for
19 the first one and consensus growth rate projections from Zacks for the second one.

20 As shown on his Direct Exhibit RAM-4 and Direct Exhibit RAM-5, he relied on
21 average growth rate estimates in the range of 5.65% to 5.58% from *Value Line* and
22 *Zacks* to produce a DCF cost of equity in the range of 9.09% to 9.15%. Then,

1 Dr. Morin added approximately 20 basis points to account for flotation costs, which
2 increased his recommended DCF return to a range of 9.27% to 9.34%.⁴³

3 **Q PLEASE DESCRIBE THE ISSUES YOU TAKE WITH DR. MORIN'S DCF**
4 **ANALYSES.**

5 A My major concern with Dr. Morin's DCF analysis is that his DCF results are heavily
6 impacted by two Canada-based companies that should not be included in his proxy
7 group because of the various differences in risk as I described in detail above. Dr.
8 Morin's proxy group includes Emera and Fortis. The *Value Line* growth rates for
9 Emera and Fortis are 10.0% and 9.0%, respectively. These growth rates are more
10 than two times the 4.2% projected long-term growth of the U.S. economy.

11 **Q CAN DR. MORIN'S DCF STUDY BE CORRECTED TO PRODUCE MORE**
12 **REASONABLE RESULTS?**

13 A Yes. Excluding Dr. Morin's hypothetical flotation cost adjustment, the average and
14 median DCF results using *Value Line* growth rates are 9.2% and 9.3%, respectively.
15 The same correction applied to his DCF study using Zack's growth rates produce
16 average and median results of 9.1% and 9.2%, respectively.

17 In addition to excluding his hypothetical flotation cost adjustment, Dr. Morin's
18 DCF studies can be further corrected by excluding the results of Emera and Fortis.
19 These corrections produce average and median results based on *Value Line* growth
20 rates are 8.5% and 9.0%, respectively. The average and median results after all
21 corrections to his DCF study using Zack's growth rates are 8.7% and 9.1%,
22 respectively.

⁴³Morin Direct Testimony at 45-47.

1 **V.C. Dr. Morin's CAPM Analysis**

2 **Q PLEASE DESCRIBE DR. MORIN'S TRADITIONAL CAPM ANALYSIS.**

3 A Dr. Morin developed a CAPM return estimate of 9.4% based on a group average beta
4 of 0.71, a risk-free rate of 4.4% and a market risk premium of 7.0%. Then he added
5 his irrational flotation cost adder of 20 basis points to produce a CAPM return for
6 OG&E of 9.6%.⁴⁴

7 **Q WHAT ISSUES DO YOU TAKE WITH DR. MORIN'S CAPM ANALYSIS?**

8 A My primary issue with Dr. Morin's CAPM study is that his risk-free rate of 4.4%
9 significantly exceeds the consensus outlook for Treasury bond yields.

10 **Q HOW DID DR. MORIN DEVELOP HIS RISK-FREE RATE ESTIMATE?**

11 A Dr. Morin developed his risk-free rate estimate using the long-term projections of
12 30-year Treasury bond yields made by the CBO, Bureau of Labor Statistics, U.S. EIA,
13 *IHS Global Insight*, *Value Line*, and the Economic Report of the President. At
14 page 31 of his testimony, Dr. Morin shows that the average forecast from these
15 sources is 4.4%.

⁴⁴Morin Direct testimony at 38.

1 **Q WHAT ISSUES DO YOU HAVE WITH DR. MORIN'S RISK-FREE RATE?**

2 A Dr. Morin's projected risk-free rate of 4.4% is well in excess of the current 30-year
3 Treasury bond yield of 3.05% and the consensus for the projected 30-year Treasury
4 bond yield of 3.8%⁴⁵ as published in *The Blue Chip Financial Forecasts* 18 months
5 out.

6 Dr. Morin's 4.4% long-term projected Treasury bond yield exceeds consensus
7 projection by 60 basis points. Dr. Morin's use of Treasury bond yield projections at
8 least 10 years out substantially exceeds current observable Treasury bond yields,
9 and the expected Treasury bond yields to be realized over the next 18 months.
10 Projecting interest rates in the future is highly uncertain and subject to substantial
11 error. Therefore, in order to accurately measure OG&E's current market cost of
12 equity, more consideration should be given to the projected Treasury bond yields in
13 the test year, or at maximum Treasury bond yields expected to prevail during the
14 period rates determined in this proceeding are in effect. Therefore, Dr. Morin's use of
15 a Treasury bond yield projected to be in effect 10 years out should be disregarded,
16 and primary consideration should be given to Treasury bond yield projections over
17 the next 18 months, or the current observable actual Treasury bond yield.

18 **Q CAN DR. MORIN'S TRADITIONAL CAPM ANALYSIS BE CORRECTED TO**
19 **PRODUCE MORE RELIABLE RESULTS?**

20 A Yes. Correcting Dr. Morin's traditional CAPM analysis by using his market risk
21 premium of 7.0%, estimated beta of 0.71, and using a consensus projected risk-free
22 rate (30-year Treasury bond yield) of 3.8%, produces a traditional CAPM cost
23 estimate of approximately 8.8%.

⁴⁵*Blue Chip Financial Forecasts*, April 1, 2018 at 2.

1 **V.D. Dr. Morin's Empirical CAPM ("ECAPM")**

2 **Q PLEASE DESCRIBE DR. MORIN'S ECAPM ANALYSIS.**

3 A Dr. Morin relies on empirical tests of the traditional CAPM model to modify it in such a
4 way to attempt to *correct* the original CAPM for some deficiencies inherent in the
5 original model. Empirical tests show that the expected return line, or security market
6 line, predicted by the CAPM are not as steep as the model would have us believe. In
7 other words, the traditional CAPM understates the expected return for securities with
8 betas less than 1, and overstates the expected return for securities with betas greater
9 than 1. In order to correct for this empirical finding, Dr. Morin modifies the traditional
10 CAPM model as follows:

11
$$R_i = R_f + 0.75 \times B_i \times (R_m - R_f) + 0.25 \times B_m \times (R_m - R_f) \text{ where:}$$

12 R_i = Required return for stock i

13 R_f = Risk-free rate

14 R_m = Expected return for the market portfolio

15 B_m = Beta of the market

B_i = Beta - Measure of the risk for stock

16 **Q WHAT ISSUES DO YOU TAKE WITH DR. MORIN'S ECAPM ANALYSIS?**

17 A The biggest issue I have with Dr. Morin's ECAPM analysis is his use of an adjusted
18 beta as published by *Value Line*. The impact of Dr. Morin's ECAPM adjustments
19 increases his adjusted *Value Line* beta estimate of 0.71 of 0.78.⁴⁶ While Dr. Morin
20 argues that the weighting adjustments applied in the ECAPM are a return, or vertical
21 axis, adjustment⁴⁷, it is mathematically the same as adjusting beta since the inputs
22 are all multiplicative as shown in the formula above.

23 Further, Dr. Morin reliance on an adjusted *Value Line* beta in his ECAPM
24 study is inconsistent with the academic research that I am aware of supporting the

⁴⁶ $75\% \times 0.71 + 25\% \times 1 = 0.78$.

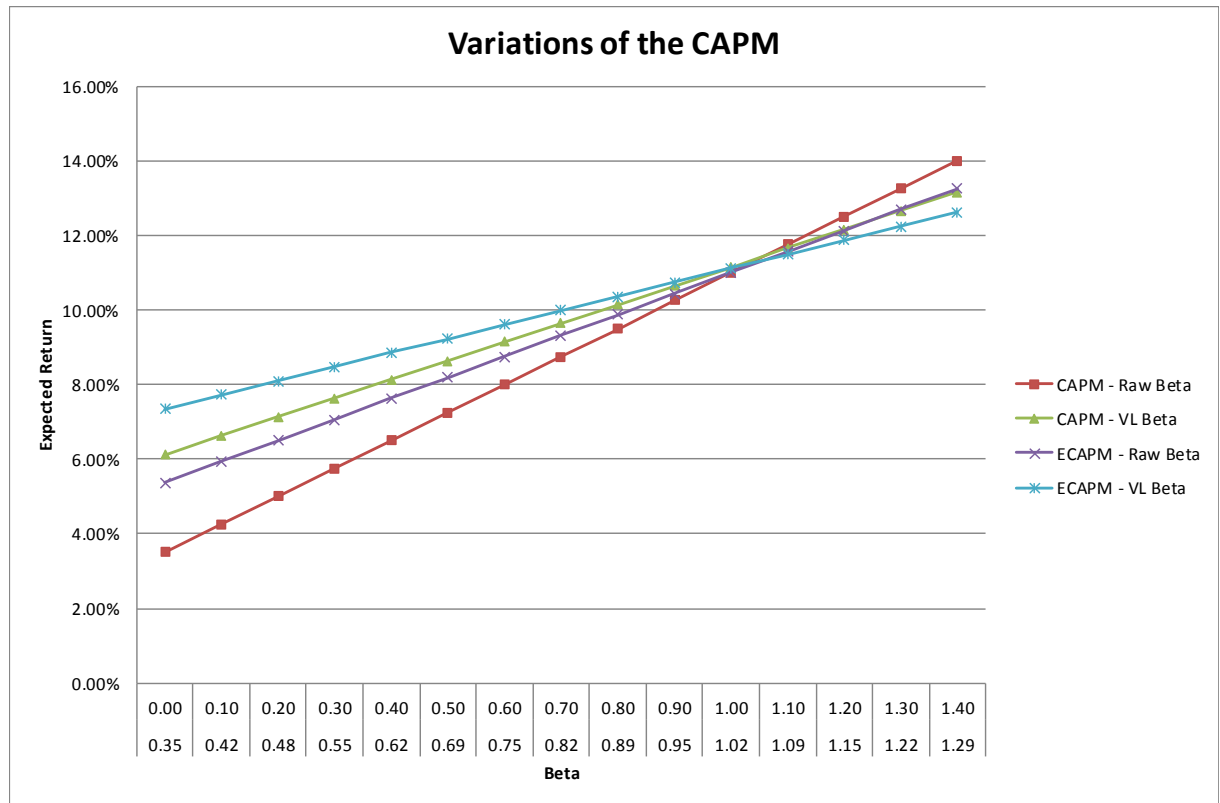
⁴⁷ Morin Direct at pages 40-41.

1 development of an ECAPM.⁴⁸ The end result of using adjusted betas in the ECAPM
2 is essentially an expected return line that has been flattened by two adjustments. In
3 other words, the vertical intercept has been raised twice and the security market line
4 has been flattened twice: once through the adjustments *Value Line* made to the raw
5 beta, and again when by weighting the risk-adjusted market risk premium as Dr.
6 Morin has done.

7 Dr. Morin goes over the theory of the ECAPM at pages 38-41 of his direct
8 testimony, as well as in his Appendix A. As shown in the figure on page 39 of his
9 testimony, the ECAPM will raise the intercept point of the security market line and
10 flatten the slope. Again, this has the effect of increasing CAPM return estimates for
11 companies with betas less than 1, and decreasing the CAPM return estimates for
12 companies with betas greater than 1. I have modeled the expected return line
13 resulting from the application of the various forms of the CAPM/ECAPM below in
14 Figure 5.

⁴⁸See Black, Fischer, "Beta and Return," *The Journal of Portfolio Management*, Fall 1993, 8-18; and Black, Fischer, Michael C. Jensen and Myron Scholes, "The Capital Asset Pricing Model: Some Empirical Tests," 1972.

FIGURE 5



Along the horizontal axis in Figure 5 above, I have provided the raw unadjusted beta (top row) and the corresponding adjusted *Value Line* beta (bottom row). As shown in Figure 5 above, the CAPM using a *Value Line* beta compared to the CAPM using an unadjusted beta shows that the *Value Line* beta raises the intercept point and flattens the slope of the security market line. As shown in the figure above, the two variations with the most similar slope are the CAPM with the *Value Line* beta, and the ECAPM with a raw beta. This evidence shows that the ECAPM adjustment has a very similar impact on the expected return line as a *Value Line* beta. Another observation that can be made from the figure above is the magnifying effect that the ECAPM using a *Value Line* beta has on raising the vertical intercept and flattening the slope relative to all other variations. There is simply no legitimate basis to use an adjusted beta within an ECAPM because it unjustifiably

1 alters the security market line and materially inflates a CAPM return for a company
2 with a beta less than 1.

3 **Q IN YOUR EXPERIENCE, IS DR. MORIN'S PROPOSED USE OF AN ADJUSTED**
4 **BETA IN AN ECAPM STUDY WIDELY ACCEPTED IN THE REGULATORY**
5 **ARENA?**

6 A No. In my experience, regulatory commissions generally disregard the use of the
7 ECAPM, particularly when an adjusted beta is used in the model.

8 **Q ARE YOU AWARE OF ANY PEER-REVIEWED ACADEMIC SUPPORT FOR DR.**
9 **MORIN'S PROPOSED USE OF AN ADJUSTED BETA IN AN ECAPM STUDY?**

10 A No. I am unaware of any peer reviewed academic study showing that the ECAPM is
11 more accurate using adjusted betas for companies that have raw betas of less than
12 1 generally, or utility companies specifically. To my knowledge, the ECAPM has been
13 tested and published with unadjusted beta estimates. While I have encountered the
14 ECAPM analysis in many proceedings over the last several years, I have failed to find
15 any utility witness in support of this methodology that can provide academic support
16 for use of an ECAPM analysis with an adjusted beta such as a *Value Line* published
17 beta. Rather, the ECAPM was designed to be used in conjunction with an unadjusted
18 beta.⁴⁹ For the reasons outlined above, Dr. Morin's proposal to use adjusted betas in
19 an ECAPM study should be rejected.

⁴⁹ See Black, Fischer, "Beta and Return," *The Journal of Portfolio Management*, Fall 1993, 8-18; and Black, Fischer, Michael C. Jensen and Myron Scholes, "The Capital Asset Pricing Model: Some Empirical Tests," 1972.

1 **Q IS THERE A WAY TO MORE ACCURATELY MEASURE THE COST OF EQUITY**
2 **FOR OG&E USING THE ECAPM?**

3 A Because the ECAPM model is based on an unadjusted regression beta, if the
4 appropriate beta is used in the ECAPM it would produce a reasonable return
5 estimate. This can be accomplished by removing, or backing out, the adjustment
6 from *Value Line's* published beta.

7 Removing *Value Line's* beta adjustment will produce the original regression
8 beta estimate. Using this regression beta in the ECAPM will produce a more
9 accurate result than that offered by Dr. Morin. As explained earlier, Dr. Morin's proxy
10 group has an average Value Line beta of 0.71. By removing the adjustments that
11 Value Line made to produce the proxy group's average 0.71 beta, I have calculated
12 the original regression beta of 0.54. Using the regression beta of 0.54 in the ECAPM
13 model shown above will produce an expected return estimate of approximately
14 9.0%.⁵⁰

15 **V.E. Dr. Morin's Historical Risk Premium**

16 **Q PLEASE DESCRIBE DR. MORIN'S HISTORICAL RISK PREMIUM.**

17 A Dr. Morin estimates the actual achieved return on electric utility stocks relative to that
18 of long-term Treasury bond securities over the period 1931 through 2016 to be
19 approximately 5.5%.⁵¹

20 Then he adds the estimated electric equity risk premium of 6.1% to his
21 projected yield on Treasury bonds of 4.4%, to arrive at a risk premium estimate of
22 10.5% without flotation costs and 10.7% including flotation costs.⁵²

⁵⁰ECAPM = RF + 0.25 x MRP + 0.75 x MRP x Unadjusted Beta. ECAPM = 4.4% + 0.25 x 7.0% + 0.75 x 7.0% x 0.54 = 9.0%.

⁵¹Morin Direct Testimony at 41-42 and Direct Exhibit RAM-7.

⁵²*Id.*

1 **Q WHAT ISSUE DO YOU TAKE WITH DR. MORIN'S RISK PREMIUM?**

2 A I have two concerns with Dr. Morin's risk premium study. First, for the reasons
3 explained above, his projected Treasury bond yield is expected to prevail at least
4 10 years in the future. Current observable and projected Treasury bond yields over
5 the next 18 months are more consistent with actual capital market costs in the current
6 market. Second, his method of estimating a market risk premium of 6.1% does not
7 properly and accurately measure the investment return difference between investing
8 in utility stocks, and investing in Treasury bonds. Specifically, this risk premium
9 ignores capital gains and losses on Treasury bonds, but it does not ignore gains and
10 losses on stock. As such, it is not an apples-to-apples comparison. For these
11 reasons, Dr. Morin's 6.1% market risk premium should be rejected as incomplete and
12 inaccurate.

13 **Q HOW WOULD THE RISK PREMIUM METHODOLOGY USED BY DR. MORIN**
14 **CHANGE IF IT WERE UPDATED TO INCLUDE MORE REALISTIC TREASURY**
15 **BOND YIELDS?**

16 A Adding a more reasonable projected Treasury yield of 3.8% to his risk premium of
17 5.5% produces a cost estimate of 9.3%.

18 **V.F. Dr. Morin's Allowed Risk Premium**

19 **Q PLEASE DESCRIBE DR. MORIN'S ALLOWED RISK PREMIUM.**

20 A Dr. Morin measures the indicated risk premium of authorized electric returns over
21 Treasury bond yields over the period 1986 through 2016. The average indicated risk
22 premium that Dr. Morin calculates is 5.5%.⁵³ Dr. Morin then performs a linear

⁵³Direct Exhibit RAM-8.

1 regression analysis in an attempt to capture a simple inverse relationship between
2 interest rates and authorized return risk premiums. Dr. Morin then inputs his
3 projected Treasury bond yield of 4.4% in the regression formula and calculates a
4 projected risk premium of 6.1%. Adding the risk premium estimate of 6.1% to his
5 projected 4.4% Treasury bond yield implies a cost of equity estimate of 10.5%.⁵⁴

6 **Q WHAT ISSUES DO YOU HAVE WITH DR. MORIN'S ALLOWED RISK PREMIUM**
7 **ANALYSES?**

8 A I have two concerns with Dr. Morin's allowed risk premium analysis. First, he
9 continues to rely on a projected long-term Treasury bond yield that does not reflect
10 current capital market costs. Second, developing a risk premium in the current
11 market by simply assuming an inverse relationship between equity risk premiums and
12 interest rates is incomplete and does not accurately gauge an appropriate risk
13 premium in the market. Indeed, market evidence suggests that risk premiums should
14 relate to the investment risk differentials between equity investments and bond
15 investments, which can change based on market conditions.

16 **Q WHY IS DR. MORIN'S USE OF A SIMPLE INVERSE RELATIONSHIP BETWEEN**
17 **INTEREST RATES AND EQUITY RISK PREMIUMS NOT REASONABLE?**

18 A Dr. Morin's assumption that current risk premiums can be gauged by a simplistic
19 inverse relationship between equity risk premiums and interest rates is not supported
20 by academic research. While academic studies have shown that, in the past, there
21 has been an inverse relationship with these variables, academics have found that the
22 relationship changes over time and is influenced by changes in perception of the risk

⁵⁴Morin Direct Testimony at 44.

1 of bond investments relative to the investment risks of equity investments.⁵⁵ The
2 relative risk of equity investments versus the risk of bond investments changes based
3 on investors' perceptions of risk, risk tolerance, and market factors. While the interest
4 rate is certainly one component that helps describe an appropriate equity risk
5 premium, it is not the only factor. A broader assessment of perceptions of equity
6 versus bond risk is necessary to properly determine an appropriate equity risk
7 premium in the current market.

8 **Q PLEASE SUMMARIZE SOME OF THE ACADEMIC STUDIES ON EQUITY RISK**
9 **PREMIUM MEASUREMENTS.**

10 A In the 1980s, equity risk premiums were inversely related to interest rates, but that
11 was likely attributable to the interest rate volatility that existed at that time. As such,
12 when interest rates were more volatile, the relative perception of bond investment risk
13 increased relative to the investment risk of equities. This changing investment risk
14 perception caused changes in equity risk premiums.

15 In today's marketplace, interest rate volatility is not as extreme as it was
16 during the 1980s.⁵⁶ Nevertheless, changes in the perceived risk of bond investments
17 relative to equity investments still drive changes in equity premiums. However, a
18 relative investment risk differential cannot be measured simply by observing changes
19 in nominal interest rates. Changes in nominal interest rates are highly influenced by
20 changes to inflation outlooks, which also change equity return expectations. As such,
21 the relevant factor needed to explain changes in equity risk premiums is the relative

⁵⁵"The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, No. 1, 2001 and "The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985.

⁵⁶"The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985, at 44.

1 changes to the risk of equity versus debt securities investments, not simply changes
2 to interest rates.

3 Importantly, Dr. Morin's analysis simply ignores investment risk differentials.
4 His projected equity risk premium is based exclusively on changes in nominal interest
5 rates. This is a flawed methodology and does not produce accurate or reliable risk
6 premium estimates. His results should be rejected by the Commission.

7 **Q CAN DR. MORIN'S RISK PREMIUM ANALYSIS BASED ON PROJECTED YIELDS**
8 **BE MODIFIED TO PRODUCE MORE REASONABLE RESULTS?**

9 A Yes. Eliminating the reliance on a regression formula to estimate the equity risk
10 premium and relying on an updated consensus projection of Treasury bond yield of
11 3.8% and Dr. Morin's risk premium of 5.5% will result in a return on equity of 9.3% for
12 OG&E.

13 **Q DO YOU HAVE ANY COMMENTS CONCERNING DR. MORIN'S RELIANCE ON**
14 **PROJECTED INTEREST RATES?**

15 A Yes. First, it is simply not known how much, if any, long-term interest rates will
16 increase from current levels, or whether they have already fully accounted for the
17 termination of the Federal Reserve's Quantitative Easing program and the increases
18 in the Federal Funds Rate. Nevertheless, I do agree that this Federal Reserve
19 program introduced risk or uncertainty in long-term interest rate markets. Because of
20 this uncertainty, caution should be taken in estimating OG&E's current return on
21 common equity in this case. However, the increase in short-term interest rates had
22 no impact on longer-term yields that "remain at historically low levels and are

1 influenced more by the level of inflation and economic strength than by the Fed's
2 short-term rate policy."⁵⁷

3 Second, I would note OG&E is largely shielded from significant changes in
4 capital market costs. To the extent interest rates ultimately increase above current
5 levels, potentially impacting required returns on common equity, OG&E can file to
6 change rates to revise the authorized rate of return at the prevailing market levels.

7 Finally, while current observable interest rates are actual market data that
8 provides a measure of the current cost of capital, the accuracy of forecasted interest
9 rates is problematic at best.

10 **Q WHY DO YOU BELIEVE THAT THE ACCURACY OF FORECASTED INTEREST**
11 **RATES IS HIGHLY PROBLEMATIC?**

12 A Over the last several years, observable current interest rates have been a more
13 accurate predictor of future interest rates than economic consensus projections.
14 Exhibit CCW-21 illustrates this point. On this exhibit, under Columns 1 and 2, I show
15 the actual market yield at the time a projection is made for Treasury bond yields
16 18 months in the future. In Column 1, I show the actual Treasury yield. In Column 2,
17 I show the projected yield 18 months out.

18 As shown in Columns 1 and 2, over the last several years, Treasury yields
19 were projected to increase relative to the actual Treasury yields at the time of the
20 projection. In Column 4, I show what the Treasury yield actually turned out to be
21 18 months after the forecast. In Column 5, I show the actual yield change at the time
22 of the projections relative to the projected yield change.

23 As shown in this exhibit, economists consistently have been projecting that
24 interest rates will increase over several years. However, as shown in Column 5,

⁵⁷EEI Q4 2015 Financial Update: "Stock Performance" at 6.

1 those yield projections have turned out to be overstated in almost every case.
2 Indeed, actual Treasury yields have decreased or remained flat over the last several
3 years rather than increased as the economists' projections indicated. As such,
4 current observable interest rates are just as likely to accurately predict future interest
5 rates as are economists' projections.

6 **V.G. Dr. Morin's Comments on OG&E's Capital Structure**

7 **Q DID DR. MORIN COMMENT ON OG&E'S REQUESTED CAPITAL STRUCTURE?**

8 A Yes. At pages 51-57 of his testimony, Dr. Morin discusses why he believes OG&E's
9 capital structure is reasonable and compares the requested common equity ratio to
10 the financial benchmarks of Moody's and S&P. Dr. Morin concludes that for every
11 1 percentage point decrease in the common equity ratio, the cost of equity increases
12 approximately 10 basis points, and that an optimal capital structure is one that
13 maintains a strong A rating.

14 For his assessment, Dr. Morin relies, in part, on the 2009 financial
15 benchmarks published by S&P, which included three core ratios: (1) adjusted debt
16 ratio, (2) FFO-to-Debt, and (3) Debt-to-EBITDA. To make his point, Dr. Morin
17 observes that the utilities with an "Intermediate" financial risk score (such as OG&E),
18 the benchmark debt ratio is between 35%-45%, with a midpoint of 40%, which would
19 imply an adjusted common equity ratio of 60%. As shown on his Direct Exhibit
20 RAM-10, the corresponding FFO-to-Debt and Debt-to-EBITDA measures for S&P's
21 "Intermediate" category are 30%-45% and 2.0x-3.0x, respectively.

1 **Q DO YOU HAVE ANY COMMENTS ON DR. MORIN'S ANALYSIS?**

2 A Yes. Dr. Morin's Direct Exhibit RAM-10 is outdated, misleading, and not entirely
3 relevant to OG&E's ratings from S&P. For example, S&P updated its ratings
4 methodology in 2013 as I described above. In its update, S&P published two core
5 metrics: (1) FFO-to-Debt and (2) Debt-to-EBITDA. S&P no longer has a guideline
6 capital structure metric for use in assessing a company's risk profile. Furthermore, in
7 2013, S&P completely revamped its published financial benchmark ranges for the two
8 core metrics.

9 As shown on my Exhibit CCW-20, page 1, a FFO-to-Debt ratio within the
10 range of 23%-35% satisfies the "Intermediate" financial risk assessment, not the
11 30%-45% Dr. Morin would lead us to believe. Further, a Debt-to-EBITDA measure
12 within the range of 2.5x-3.5x satisfies the "Intermediate" financial risk assessment,
13 compared to the 2.0x-3.0x provided by Dr. Morin. As I have described above, and
14 shown on my Exhibit CCW-20, my recommended return on equity of 9.35% and the
15 adjusted annual depreciation expense recommended by my colleague Mr. Andrews,
16 will produce sufficient cash flows to support OG&E's current "Intermediate" risk profile
17 from S&P.

18 Further, as I outlined above, S&P has clearly indicated that OG&E's ratings
19 and outlooks are directly tied to that of its parent company, OGE Energy, because of
20 the lack of any meaningful insulation measures protecting the utility from OGE
21 Energy. Because of the lack of insulation between OG&E and its parent, OG&E's
22 ratings and outlooks are at risk for factors outside of its regulated operations,
23 including OGE Energy's stake in Enable. Requiring ratepayers to fund cash flows to
24 support the metrics of OGE Energy potentially leads to subsidizing other riskier
25 corporate ventures under the OGE Energy umbrella of companies.

1 As described above, the S&P financial benchmarks provided by Dr. Morin are
2 outdated and irrelevant to OG&E's ratings. Because S&P updated its methodology
3 almost five years ago, eliminated its capital structure guideline, and revamped its
4 other core ratio benchmarks, Dr. Morin's analysis and conclusions resulting from said
5 analysis, should be disregarded.

6 **Q DOES THIS CONCLUDE YOUR RESPONSIVE TESTIMONY?**

7 **A Yes, it does.**

Qualifications of Christopher C. Walters

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Christopher C. Walters. My business address is 16690 Swingley Ridge Road,
3 Suite 140, Chesterfield, MO 63017.

4 **Q PLEASE STATE YOUR OCCUPATION.**

5 A I am a Senior Consultant in the field of public utility regulation with the firm of
6 Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

7 **Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL
8 EMPLOYMENT EXPERIENCE.**

9 A I graduated from Southern Illinois University Edwardsville in 2008 where I received a
10 Bachelor of Science Degree in Business Economics and Finance. I graduated with a
11 Master of Business Administration Degree from Lindenwood University in 2011.

12 In January 2009, I accepted the position Financial Representative with
13 American General Finance and was promoted to Senior Assistant Manager. In this
14 position I was responsible for assisting in the management of daily operations of the
15 branch, analyzing and reporting on the performance of the branch to upper
16 management, performing credit analyses for consumers and small businesses, as
17 well as assisting home buyers obtain mortgage financing.

18 In January 2011, I accepted the position of Analyst with BAI. As an Analyst, I
19 performed detailed analysis, research, and general project support on regulatory and
20 competitive procurement projects. In July 2013, I was promoted to the position of
21 Consultant. As a Consultant, I have performed detailed technical analyses and
22 research to support regulatory projects including expert testimony, and briefing

1 assistance covering various regulatory issues. At BAI, I have been involved with
2 several regulated projects for electric, natural gas and water and wastewater utilities,
3 as well as competitive procurement of electric power and gas supply. My regulatory
4 filing tasks have included measuring the cost of capital, capital structure evaluations,
5 assessing financial integrity, merger and acquisition related issues, risk management
6 related issues, depreciation rate studies, other revenue requirement issues and
7 wholesale market and retail regulated power price forecasts. Since 2011, I have
8 been working with BAI witnesses on utility rate of return filings. Specifically, I have
9 assisted BAI witnesses in analyzing rate of return studies, drafting discovery requests
10 and analyzing responses, drafting rate of return testimony and exhibits and assisting
11 with the review of the briefs.

12 BAI was formed in April 1995. BAI and its predecessor firm have participated
13 in more than 700 regulatory proceedings in 40 states and Canada.

14 BAI provides consulting services in the economic, technical, accounting, and
15 financial aspects of public utility rates and in the acquisition of utility and energy
16 services through RFPs and negotiations, in both regulated and unregulated markets.
17 Our clients include large industrial and institutional customers, some utilities and, on
18 occasion, state regulatory agencies. We also prepare special studies and reports,
19 forecasts, surveys and siting studies, and present seminars on utility-related issues.

20 In general, we are engaged in energy and regulatory consulting, economic
21 analysis and contract negotiation. In addition to our main office in St. Louis, the firm
22 also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

23 **Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?**

24 **A** Yes. I have sponsored testimony before state regulatory commissions including:
25 Arkansas, Delaware, Florida, Kansas, Kentucky, Michigan, Minnesota, Ohio and

1 Oklahoma. I have also filed an affidavit before the Federal Energy Regulatory
2 Commission ("FERC").

3 **Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR**
4 **ORGANIZATIONS TO WHICH YOU BELONG.**

5 A I earned the Chartered Financial Analyst ("CFA") designation from the CFA Institute.
6 The CFA charter was awarded after successfully completing three examinations
7 which covered the subject areas of financial accounting and reporting analysis,
8 corporate finance, economics, fixed income and equity valuation, derivatives,
9 alternative investments, risk management, and professional and ethical conduct. I
10 am a member of the CFA Institute and the CFA Society of St. Louis.

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BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

IN THE MATTER OF THE
APPLICATION OF OKLAHOMA
GAS AND ELECTRIC COMPANY
FOR AN ORDER OF THE
COMMISSION AUTHORIZING
APPLICANT TO MODIFY ITS
RATES, CHARGES, AND TARIFFS
FOR RETAIL ELECTRIC SERVICE
IN OKLAHOMA

CAUSE NO. PUD 201700496

STATE OF MISSOURI)
COUNTY OF ST. LOUIS) SS

Affidavit of Christopher C. Walters

Christopher C. Walters, being first duly sworn, on his oath states:

1. My name is Christopher C. Walters. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by Federal Executive Agencies in this proceeding on their behalf.

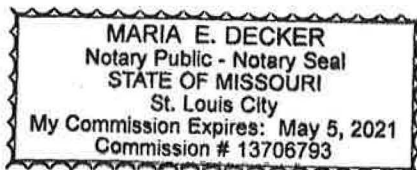
2. Attached hereto and made a part hereof for all purposes are my responsive testimony and exhibits which were prepared in written form for introduction into evidence in the Corporation Commission of Oklahoma, Cause No. PUD 201700496.

3. I hereby swear and affirm that the testimony and exhibits are true and correct and that they show the matters and things that they purport to show.



Christopher C. Walters

Subscribed and sworn to before me this 30th day of April, 2018.



Notary Public

Oklahoma Gas and Electric Company

Rate of Return

(September 30, 2017)

<u>Line</u>	<u>Description</u>	<u>Capital</u> (1)	<u>Weight</u> (2)	<u>Cost</u> (3)	<u>Weighted</u> <u>Cost</u> (4)
1	Common Equity	\$ 3,412,886,691	53.34%	9.35%	4.99%
2	Long-Term Debt	<u>\$ 2,985,002,653</u>	<u>46.66%</u>	5.32%	<u>2.48%</u>
3	Total	\$ 6,397,889,344	100.00%		7.47%

Oklahoma Gas and Electric Company

Authorized ROE for Electric Utilities from 2016 to 2018

Line	Year	Company	State	Rate Case Completion Date	Authorized Return on Equity
			(1)	(2)	(3)
2016					
1		Florida Power & Light Company	FL	Nov 29 2016	10.55%
2		Duke Energy Progress, LLC	SC	Dec 7 2016	10.10%
3		Upper Peninsula Power Company	MI	Sep 8 2016	10.00%
4		Wisconsin Power and Light Company	WI	Nov 18 2016	10.00%
5		Liberty Utilities (CalPeco Electric) LLC	CA	Dec 1 2016	10.00%
6		Northern Indiana Public Service Company	IN	Jul 18 2016	9.98%
7		Massachusetts Electric Company	MA	Sep 30 2016	9.90%
8		Virginia Electric and Power Company	NC	Dec 22 2016	9.90%
9		Indianapolis Power & Light Company	IN	Mar 16 2016	9.85%
10		Kingsport Power Company	TN	Aug 9 2016	9.85%
11		Fitchburg Gas and Electric Light Company	MA	Apr 29 2016	9.80%
12		Madison Gas and Electric Company	WI	Nov 9 2016	9.80%
13		Entergy Arkansas, Inc.	AR	Feb 23 2016	9.75%
14		Baltimore Gas and Electric Company	MD	Jun 3 2016	9.75%
15		Atlantic City Electric Company	NJ	Aug 24 2016	9.75%
16		Jersey Central Power & Light Company	NJ	Dec 12 2016	9.60%
17		Sierra Pacific Power Company	NV	Dec 22 2016	9.60%
18		Public Service Company of New Mexico	NM	Sep 28 2016	9.58%
19		Potomac Electric Power Company	MD	Nov 15 2016	9.55%
20		Avista Corporation	WA	Jan 6 2016	9.50%
21		UNS Electric, Inc.	AZ	Aug 18 2016	9.50%
22		PacificCorp	WA	Sep 1 2016	9.50%
23		Public Service Company of Oklahoma	OK	Nov 10 2016	9.50%
24		Avista Corporation	ID	Dec 28 2016	9.50%
25		El Paso Electric Company	NM	Jun 8 2016	9.48%
26		Black Hills Colorado Electric Utility Company, LP	CO	Dec 19 2016	9.37%
27		United Illuminating Company	CT	Dec 14 2016	9.10%
28		New York State Electric & Gas Corporation	NY	Jun 15 2016	9.00%
29		Rochester Gas and Electric Corporation	NY	Jun 15 2016	9.00%
30		Emera Maine	ME	Dec 19 2016	9.00%
31		Commonwealth Edison Company	IL	Dec 6 2016	8.64%
32		Ameren Illinois Company	IL	Dec 6 2016	8.64%
33		Utilities with an Approved ROE > 9.70%			15
34		Utilities with an Approved ROE ≤ 9.70%			17
35		ROE Range of Utilities with an Approved ROE ≤ 9.70%			8.64% - 9.60%
2017					
36		Alaska Electric Light and Power Company	AK	Nov 15 2017	11.95%
37		Southern California Edison Company	CA	Oct 26 2017	10.30%
38		Gulf Power Company	FL	Apr 4 2017	10.25%
39		Pacific Gas and Electric Company	CA	Oct 26 2017	10.25%
40		Tampa Electric Company	FL	Nov 6 2017	10.25%
41		San Diego Gas & Electric Co.	CA	Oct 26 2017	10.20%
42		DTE Electric Company	MI	Jan 31 2017	10.10%
43		Consumers Energy Company	MI	Feb 28 2017	10.10%
44		Arizona Public Service Company	AZ	Aug 15 2017	10.00%
45		NSTAR Electric Company	MA	Nov 30 2017	10.00%
46		Western Massachusetts Electric Company	MA	Nov 30 2017	10.00%
47		Oncor Electric Delivery Company LLC	TX	Sep 28 2017	9.80%
48		Northern States Power Company - WI	WI	Dec 7 2017	9.80%
49		Tucson Electric Power Company	AZ	Feb 24 2017	9.75%
50		Delmarva Power & Light Company	DE	May 23 2017	9.70%
51		Kentucky Utilities Company	KY	Jun 22 2017	9.70%
52		Louisville Gas and Electric Company	KY	Jun 22 2017	9.70%
53		MDU Resources Group, Inc.	ND	Jun 16 2017	9.65%
54		El Paso Electric Company	TX	Dec 14 2017	9.65%
55		Electric Transmission Texas, LLC	TX	Jan 12 2017	9.60%
56		Delmarva Power & Light Company	MD	Feb 15 2017	9.60%
57		Rockland Electric Company	NJ	Feb 22 2017	9.60%
58		Atlantic City Electric Company	NJ	Sep 22 2017	9.60%
59		Southwestern Electric Power Company	TX	Dec 14 2017	9.60%
60		Public Service Company of New Mexico	NM	Dec 20 2017	9.58%
61		Oklahoma Gas and Electric Company	OK	Mar 20 2017	9.50%
62		Unitil Energy Systems, Inc.	NH	Apr 20 2017	9.50%
63		Kansas City Power & Light Company	MO	May 3 2017	9.50%
64		Oklahoma Gas and Electric Company	AR	May 18 2017	9.50%
65		Potomac Electric Power Company	DC	Jul 24 2017	9.50%
66		Potomac Electric Power Company	MD	Oct 20 2017	9.50%
67		Puget Sound Energy, Inc.	WA	Dec 5 2017	9.50%
68		Portland General Electric Company	OR	Dec 18 2017	9.50%
69		Avista Corporation	ID	Dec 28 2017	9.50%
70		MDU Resources Group, Inc.	WY	Jan 18 2017	9.45%
71		Otter Tail Power Company	MN	Mar 2 2017	9.41%
72		Liberty Utilities (Granite State Electric) Corp.	NH	Apr 12 2017	9.40%
73		Nevada Power Company	NV	Dec 29 2017	9.40%
74		Northern States Power Company - MN	MN	May 11 2017	9.20%
75		Green Mountain Power Corporation	VT	Dec 21 2017	9.10%
76		Consolidated Edison Company of New York, Inc.	NY	Jan 24 2017	9.00%
77		Commonwealth Edison Company	IL	Dec 6 2017	8.40%
78		Ameren Illinois Company	IL	Dec 6 2017	8.40%
79		Utilities with an Approved ROE > 9.70%			14
80		Utilities with an Approved ROE ≤ 9.70%			29
81		ROE Range of Utilities with an Approved ROE ≤ 9.70%			9.40% - 9.70%
2018					
82		Consumers Energy Company	MI	Mar 29 2018	10.00%
83		Duke Energy Progress, LLC	NC	Feb 23 2018	9.90%
84		Kentucky Power Company	KY	Jan 18 2018	9.70%
85		Interstate Power and Light Company	IA	Feb 2 2018	9.60%
86		Public Service Company of Oklahoma	OK	Jan 31 2018	9.30%
87		ALLETE (Minnesota Power)	MN	Mar 12 2018	9.25%
88		Niagara Mohawk Power Corporation	NY	Mar 15 2018	9.00%
89		Utilities with an Approved ROE > 9.70%			2
90		Utilities with an Approved ROE ≤ 9.70%			5
91		ROE Range of Utilities with an Approved ROE ≤ 9.70%			9.00% - 10.00%

Source and Note:
S&P Global Market Intelligence.
2018 data through April 2, 2018.

Oklahoma Gas and Electric Company

Authorized ROE for Vertically Integrated Electric Cases from 2016 to 2018

Line	Year	Company	State	Rate Case	Authorized
				Completion Date	Return on Equity
			(1)	(2)	(3)
2016					
1		Florida Power & Light Company	FL	Nov 29 2016	10.55%
2		Duke Energy Progress, LLC	SC	Dec 7 2016	10.10%
3		Upper Peninsula Power Company	MI	Sep 8 2016	10.00%
4		Wisconsin Power and Light Company	WI	Nov 18 2016	10.00%
5		Liberty Utilities (CalPeco Electric) LLC	CA	Dec 1 2016	10.00%
6		Northern Indiana Public Service Company	IN	Jul 18 2016	9.98%
7		Virginia Electric and Power Company	NC	Dec 22 2016	9.90%
8		Indianapolis Power & Light Company	IN	Mar 16 2016	9.85%
9		Kingsport Power Company	TN	Aug 9 2016	9.85%
10		Madison Gas and Electric Company	WI	Nov 9 2016	9.80%
11		Entergy Arkansas, Inc.	AR	Feb 23 2016	9.75%
12		Sierra Pacific Power Company	NV	Dec 22 2016	9.60%
13		Public Service Company of New Mexico	NM	Sep 28 2016	9.58%
14		Avista Corporation	WA	Jan 6 2016	9.50%
15		UNS Electric, Inc.	AZ	Aug 18 2016	9.50%
16		PacifiCorp	WA	Sep 1 2016	9.50%
17		Public Service Company of Oklahoma	OK	Nov 10 2016	9.50%
18		Avista Corporation	ID	Dec 28 2016	9.50%
19		El Paso Electric Company	NM	Jun 8 2016	9.48%
20		Black Hills Colorado Electric Utility Company, LP	CO	Dec 19 2016	9.37%
21		Utilities with an Approved ROE > 9.70%			11
22		Utilities with an Approved ROE ≤ 9.70%			9
23		ROE Range of Utilities with an Approved ROE ≤ 9.70%			9.37% - 9.60%
2017					
24		Alaska Electric Light and Power Company	AK	Nov 15 2017	11.95%
25		Southern California Edison Company	CA	Oct 26 2017	10.30%
26		Gulf Power Company	FL	Apr 4 2017	10.25%
27		Pacific Gas and Electric Company	CA	Oct 26 2017	10.25%
28		Tampa Electric Company	FL	Nov 6 2017	10.25%
29		San Diego Gas & Electric Co.	CA	Oct 26 2017	10.20%
30		DTE Electric Company	MI	Jan 31 2017	10.10%
31		Consumers Energy Company	MI	Feb 28 2017	10.10%
32		Arizona Public Service Company	AZ	Aug 15 2017	10.00%
33		Northern States Power Company - WI	WI	Dec 7 2017	9.80%
34		Tucson Electric Power Company	AZ	Feb 24 2017	9.75%
35		Kentucky Utilities Company	KY	Jun 22 2017	9.70%
36		Louisville Gas and Electric Company	KY	Jun 22 2017	9.70%
37		MDU Resources Group, Inc.	ND	Jun 16 2017	9.65%
38		El Paso Electric Company	TX	Dec 14 2017	9.65%
39		Southwestern Electric Power Company	TX	Dec 14 2017	9.60%
40		Public Service Company of New Mexico	NM	Dec 20 2017	9.58%
41		Oklahoma Gas and Electric Company	OK	Mar 20 2017	9.50%
42		Kansas City Power & Light Company	MO	May 3 2017	9.50%
43		Oklahoma Gas and Electric Company	AR	May 18 2017	9.50%
44		Puget Sound Energy, Inc.	WA	Dec 5 2017	9.50%
45		Portland General Electric Company	OR	Dec 18 2017	9.50%
46		Avista Corporation	ID	Dec 28 2017	9.50%
47		MDU Resources Group, Inc.	WY	Jan 18 2017	9.45%
48		Otter Tail Power Company	MN	Mar 2 2017	9.41%
49		Nevada Power Company	NV	Dec 29 2017	9.40%
50		Northern States Power Company - MN	MN	May 11 2017	9.20%
51		Green Mountain Power Corporation	VT	Dec 21 2017	9.10%
52		Utilities with an Approved ROE > 9.70%			11
53		Utilities with an Approved ROE ≤ 9.70%			17
54		ROE Range of Utilities with an Approved ROE ≤ 9.70%			9.10% - 9.70%
2018					
55		Consumers Energy Company	MI	Mar 29 2018	10.00%
56		Duke Energy Progress, LLC	NC	Feb 23 2018	9.90%
57		Kentucky Power Company	KY	Jan 18 2018	9.70%
58		Interstate Power and Light Company	IA	Feb 2 2018	9.60%
59		Public Service Company of Oklahoma	OK	Jan 31 2018	9.30%
60		ALLETE (Minnesota Power)	MN	Mar 12 2018	9.25%
61		Utilities with an Approved ROE > 9.70%			2
62		Utilities with an Approved ROE ≤ 9.70%			4
63		ROE Range of Utilities with an Approved ROE ≤ 9.70%			9.25% - 9.70%

Source and Note:
S&P Global Market Intelligence.
2018 data through April 2, 2018.

Oklahoma Gas and Electric Company

Electric Utilities (Valuation Metrics)

		Price to Earnings (P/E) Ratio ¹																
Line	Company	16-Year																
		Average	2017 ²	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	ALLETE	17.39	23.00	18.63	15.06	17.23	18.59	15.88	14.66	15.98	16.08	13.95	14.78	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	15.79	20.60	22.30	18.07	16.60	15.28	14.50	14.45	12.47	13.86	13.43	15.08	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	15.45	20.60	18.29	17.55	16.71	16.52	13.35	11.93	9.66	9.26	14.21	17.45	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	13.84	19.30	15.16	15.77	15.88	14.49	13.77	11.92	13.42	10.03	13.06	16.27	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	27.54	21.20	20.49	40.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	18.09	25.30	18.80	17.60	17.28	14.64	19.30	14.08	12.74	11.42	14.97	30.88	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.71	20.00	22.29	16.14	19.03	18.24	17.13	31.13	18.10	9.93	N/A	15.02	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	14.61	17.90	21.91	18.10	16.96	18.75	14.85	14.58	13.78	11.81	11.27	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	16.69	21.30	20.94	18.29	17.30	16.32	15.07	13.62	12.46	13.56	10.87	26.84	22.18	12.60	12.39	N/A	N/A
10	Consol. Edison	15.24	20.00	18.80	15.59	15.90	14.72	15.39	15.08	13.30	12.55	12.29	13.78	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	17.62	15.40	21.33	22.14	22.97	19.25	18.91	17.27	14.35	12.74	13.78	20.63	15.98	24.89	15.07	15.24	12.05
12	DTE Energy	15.31	18.60	18.97	18.11	14.91	17.92	14.89	13.51	12.27	10.41	14.81	18.27	17.43	13.80	16.04	13.69	11.28
13	Duke Energy	16.82	19.60	21.25	18.22	17.91	17.45	17.46	13.76	12.69	13.32	17.28	16.13	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	13.97	18.10	17.92	14.77	13.05	12.70	9.71	11.81	10.32	9.72	12.36	16.03	12.99	11.74	37.59	6.97	7.78
15	El Paso Electric	17.12	22.00	18.66	18.33	16.38	15.88	14.47	12.60	10.72	10.79	11.89	15.26	16.92	26.72	22.03	18.26	22.99
16	Entergy Corp.	13.45	15.00	10.92	12.53	12.89	13.21	11.22	9.06	11.57	11.98	16.56	19.30	14.28	16.28	15.09	13.77	11.53
17	Eversource Energy	17.57	19.50	18.69	18.11	17.92	16.94	19.86	15.35	13.42	11.96	13.66	18.75	27.07	19.76	20.77	13.35	16.07
18	Exelon Corp.	14.08	8.50	18.68	12.58	16.02	13.43	19.08	11.30	10.97	11.49	17.97	18.22	16.53	15.37	12.99	11.77	10.46
19	FirstEnergy Corp.	17.32	12.00	15.91	17.02	39.79	13.06	21.10	22.39	11.75	13.02	15.64	15.59	14.23	16.07	14.13	22.47	12.95
20	Fortis Inc.	19.21	16.80	21.60	18.00	24.29	19.97	20.12	18.79	18.22	16.36	17.48	21.14	17.68	N/A	N/A	N/A	N/A
21	Great Plains Energy	15.52	NMF	17.98	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
22	Hawaiian Elec.	18.11	22.60	13.56	20.40	15.88	16.21	15.81	17.09	18.59	19.79	23.16	21.57	20.33	18.27	19.18	13.76	13.47
23	IDACORP, Inc.	15.95	21.10	19.06	16.22	14.67	13.45	12.41	11.54	11.83	10.20	13.93	18.19	15.07	16.70	15.49	26.51	18.88
24	MGE Energy	17.78	22.90	24.90	20.28	17.19	17.01	17.23	15.82	14.98	15.14	14.22	15.01	15.88	22.40	17.98	17.55	15.96
25	NextEra Energy, Inc.	15.32	13.40	20.71	16.89	17.25	16.57	14.43	11.54	10.83	13.42	14.48	18.90	13.65	17.88	13.65	17.88	13.60
26	NorthWestern Corp	16.74	17.50	17.19	18.36	16.24	16.86	15.72	12.62	12.90	11.54	13.87	21.74	25.95	17.09	N/A	N/A	N/A
27	OGE Energy	14.89	18.30	17.68	17.69	18.27	17.69	15.16	14.37	13.31	10.83	12.41	13.75	13.68	14.95	14.13	11.84	14.12
28	Otter Tail Corp.	24.30	22.10	20.19	18.20	18.84	21.12	21.75	47.48	55.10	31.16	30.06	19.02	17.35	15.40	17.34	17.77	16.01
29	PG&E Corp.	16.73	17.30	21.13	26.40	15.00	23.67	20.70	15.46	15.80	13.01	12.08	16.85	14.84	15.37	13.81	9.50	N/A
30	Pinnacle West Capital	15.58	19.90	18.74	16.04	15.89	15.27	14.35	14.60	12.57	13.74	16.07	14.93	13.69	19.24	15.80	13.96	14.43
31	PNM Resources	17.81	20.60	19.83	16.85	18.68	16.13	14.97	14.53	14.05	18.09	N/A	35.65	15.57	17.38	15.02	14.73	15.08
32	Portland General	16.10	19.90	19.06	17.71	15.32	16.88	13.98	12.37	12.00	14.40	16.30	11.94	23.35	N/A	N/A	N/A	N/A
33	PPL Corp.	14.35	18.60	12.83	13.92	14.08	12.84	10.88	10.52	11.93	25.69	17.64	17.26	14.10	15.12	12.51	10.59	11.06
34	Public Serv. Enterprise	12.96	10.40	15.35	12.41	12.61	13.50	12.79	10.40	10.37	10.04	13.65	16.54	17.81	16.74	14.26	10.58	10.00
35	SCANA Corp.	13.99	15.00	16.80	14.67	13.68	14.43	14.80	13.67	12.93	11.63	12.67	14.96	15.42	14.44	13.57	13.05	12.17
36	Sempra Energy	13.99	NMF	24.37	19.73	21.87	19.68	14.89	11.77	12.60	10.09	11.80	14.01	11.50	11.79	8.65	8.96	8.19
37	Southern Co.	15.75	16.60	17.76	15.85	16.04	16.19	16.97	15.85	14.90	13.52	16.13	15.95	16.19	15.92	14.68	14.83	14.63
38	Vectren Corp.	17.05	23.50	19.18	17.92	19.98	20.66	15.02	15.83	15.10	12.89	16.79	15.33	18.92	15.11	17.57	14.80	14.16
39	WEC Energy Group	15.93	20.00	19.95	21.33	17.71	16.50	15.76	14.25	14.01	13.35	14.77	16.47	15.97	14.46	17.51	12.43	10.46
40	Westar Energy	15.58	23.40	21.59	18.45	15.36	14.04	13.43	14.78	12.96	14.95	16.96	14.10	12.18	14.79	17.44	10.78	14.02
41	Xcel Energy Inc.	16.84	21.60	18.48	16.54	15.44	15.04	14.82	14.24	14.13	12.66	13.69	16.65	14.80	15.36	13.65	11.62	40.80
42	Average	16.19	18.96	18.97	18.00	17.39	16.38	15.69	15.30	14.28	13.56	15.18	17.74	16.47	16.52	16.57	13.70	14.31
43	Median	15.57	19.90	18.80	17.71	16.54	16.27	15.04	14.31	12.91	12.82	14.21	16.41	15.88	15.92	15.29	13.60	13.47

Sources:

¹ The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.

² The Value Line Investment Survey, January 26, February 16, and March 16, 2018.

Oklahoma Gas and Electric Company

Electric Utilities (Valuation Metrics)

		Market Price to Cash Flow (MP/CF) Ratio ¹																
Line	Company	16-Year																
		Average (1)	2017 ^{2/a} (2)	2016 (3)	2015 (4)	2014 (5)	2013 (6)	2012 (7)	2011 (8)	2010 (9)	2009 (10)	2008 (11)	2007 (12)	2006 (13)	2005 (14)	2004 (15)	2003 (16)	2002 (17)
1	ALLETE	9.35	10.83	8.26	7.49	8.80	9.15	8.18	7.91	8.04	8.51	9.29	10.30	11.06	11.54	11.46	N/A	N/A
2	Alliant Energy	7.33	10.35	10.67	8.86	8.40	7.52	7.50	7.21	6.59	6.23	7.49	7.92	8.00	5.09	5.52	4.76	5.20
3	Ameren Corp.	6.85	8.55	7.44	6.87	6.95	6.61	5.48	5.02	4.23	4.25	6.35	7.69	8.57	8.57	8.24	6.74	7.96
4	American Electric Power	6.14	8.80	7.57	7.09	7.00	6.57	5.93	5.46	5.54	4.71	5.71	6.84	5.54	6.07	5.50	4.69	5.19
5	Avangrid, Inc.	9.89	9.81	8.56	11.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	6.46	8.97	7.63	6.76	7.30	6.21	6.88	6.40	5.80	4.06	5.12	7.58	5.30	6.58	7.58	5.36	5.90
7	Black Hills	7.52	8.90	9.33	8.06	8.81	8.03	6.04	7.85	6.16	4.25	11.26	7.62	6.92	7.57	6.69	6.89	5.92
8	CenterPoint Energy	4.83	6.82	5.96	5.75	6.25	6.56	5.15	5.39	4.70	4.05	4.29	5.17	3.94	4.70	4.26	2.08	2.16
9	CMS Energy Corp.	5.44	8.69	8.50	7.53	7.13	6.68	6.03	5.41	4.48	3.64	3.45	5.57	4.40	4.04	3.20	2.88	NMF
10	Consol. Edison	8.16	9.63	9.39	7.96	7.89	7.77	8.31	8.15	7.39	6.72	6.89	8.31	8.65	8.59	9.31	7.90	7.64
11	Dominion Resources	9.18	9.24	11.59	11.84	12.27	10.88	9.92	9.45	8.12	6.98	8.27	8.65	7.81	10.09	7.68	7.51	6.53
12	DTE Energy	6.05	9.06	8.64	8.52	6.42	6.65	5.91	5.18	4.69	3.59	4.90	5.73	5.21	5.54	6.00	5.62	5.20
13	Duke Energy	7.58	8.27	8.57	7.95	8.12	8.11	9.53	6.56	6.01	5.96	7.13	7.16	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	5.25	6.52	6.77	5.92	5.68	5.46	4.59	4.22	4.11	3.95	5.63	7.01	5.87	5.61	6.84	2.82	2.96
15	El Paso Electric	5.73	8.68	7.46	6.47	6.33	6.19	5.78	5.16	4.31	3.98	4.95	6.44	6.25	6.67	4.65	3.90	4.39
16	Entergy Corp.	5.76	4.72	4.01	4.11	4.21	4.03	4.23	3.90	4.66	5.68	7.96	9.21	7.16	8.76	7.12	6.84	5.57
17	Eversource Energy	6.50	10.45	10.14	10.12	10.14	8.08	9.30	6.99	4.97	4.61	4.12	6.18	6.02	3.55	3.78	2.85	2.75
18	Exelon Corp.	6.16	3.84	4.80	4.70	5.09	4.61	5.54	5.86	5.10	5.98	9.65	9.89	8.62	7.97	6.29	5.71	4.97
19	FirstEnergy Corp.	6.21	4.93	5.12	5.38	7.43	6.15	7.42	7.33	4.49	4.91	7.58	7.89	7.53	6.04	5.15	6.90	5.10
20	Fortis Inc.	8.20	8.22	10.46	7.29	9.25	7.93	8.09	8.38	7.40	6.76	7.58	9.18	7.89	N/A	N/A	N/A	N/A
21	Great Plains Energy	6.89	14.62	8.63	6.66	6.45	5.73	6.09	5.74	4.49	5.06	7.71	7.13	7.68	6.70	6.52	5.92	5.14
22	Hawaiian Elec.	7.98	10.06	7.44	9.25	7.64	8.15	8.05	7.73	7.81	6.95	9.10	7.95	8.47	8.29	8.44	6.12	6.20
23	IDACORP, Inc.	7.92	11.99	10.95	9.37	8.59	7.78	7.05	6.64	6.52	5.31	7.10	8.23	7.73	7.55	7.15	7.27	7.53
24	MGE Energy	10.86	17.29	15.66	12.53	11.42	11.20	10.77	9.48	9.05	8.40	8.42	9.23	9.30	11.73	11.04	10.20	8.09
25	NextEra Energy, Inc.	7.15	8.59	9.23	7.93	7.98	7.60	7.58	5.98	5.33	6.09	7.34	9.02	6.51	6.71	6.71	5.97	5.77
26	NorthWestern Corp	7.53	8.77	8.65	8.99	9.01	7.61	6.85	5.89	5.79	5.05	5.57	8.45	9.39	7.31	8.13	N/A	N/A
27	OGE Energy	7.65	10.48	9.03	9.25	10.65	9.93	7.35	7.48	6.61	5.37	6.43	7.58	7.50	7.04	6.73	5.62	5.39
28	Otter Tail Corp.	9.12	11.41	9.38	9.04	9.45	9.58	8.43	9.04	8.07	8.01	11.65	9.53	8.66	8.18	9.01	8.13	8.33
29	PG&E Corp.	6.19	6.12	7.26	7.24	5.65	6.84	5.86	5.32	5.42	4.71	4.61	5.84	5.28	5.07	5.13	4.05	14.69
30	Pinnacle West Capital	5.97	8.46	7.89	6.91	7.03	6.85	6.34	5.80	5.65	3.84	4.19	4.76	4.48	7.48	5.88	4.80	5.21
31	PNM Resources	6.68	7.48	7.64	6.95	7.48	6.47	5.80	4.94	4.58	4.53	7.10	10.67	7.50	7.62	6.84	5.55	5.72
32	Portland General	5.62	7.46	7.12	6.73	5.49	6.06	5.08	4.86	4.13	4.63	4.81	5.34	5.74	N/A	N/A	N/A	N/A
33	PPL Corp.	7.47	9.99	8.37	8.73	7.32	6.59	5.87	5.98	7.46	8.82	9.17	8.90	7.58	7.57	6.49	5.41	5.30
34	Public Serv. Enterprise	7.19	6.69	8.56	6.66	6.48	6.40	6.40	6.03	6.04	6.20	8.46	9.83	8.41	8.59	7.17	6.79	6.24
35	SCANA Corp.	7.05	7.56	9.59	8.33	7.50	7.49	7.40	6.75	6.52	5.88	6.38	7.15	7.03	5.40	6.86	6.59	6.36
36	Sempra Energy	7.66	11.72	10.88	9.99	10.77	9.37	7.26	6.13	6.53	6.07	7.07	8.61	7.22	6.96	5.16	4.85	4.00
37	Southern Co.	8.22	7.89	8.83	8.23	8.42	8.30	8.75	8.22	7.79	7.08	8.18	8.62	8.47	8.41	8.28	8.28	7.83
38	Vectren Corp.	7.07	10.24	8.60	7.82	7.57	6.82	5.79	5.81	5.58	5.24	6.90	6.53	7.37	7.06	7.63	7.27	6.92
39	WEC Energy Group	8.25	11.09	10.95	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
40	Westar Energy	6.91	10.87	10.86	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
41	Xcel Energy Inc.	6.38	8.62	8.10	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
42	Average	7.09	9.09	8.65	8.05	7.85	7.39	6.98	6.53	6.00	5.59	6.95	7.72	7.12	7.13	6.77	5.70	5.85
43	Median	6.96	8.80	8.57	7.93	7.54	7.12	6.85	6.27	5.80	5.35	7.09	7.76	7.37	7.04	6.71	5.62	5.55

Sources:

¹ The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.

² The Value Line Investment Survey, January 26, February 16, and March 16, 2018.

Note:

^a Based on the average of the high and low price for 2017 and the projected 2017 Cash Flow per share, published in The Value Line Investment Survey, January 26, February 16, and March 16, 2018.

Oklahoma Gas and Electric Company

Electric Utilities (Valuation Metrics)

Line	Company	Market Price to Book Value (MP/BV) Ratio ¹													
		13-Year Average (1)	2017 ^{2b} (2)	2016 (3)	2015 (4)	2014 (5)	2013 (6)	2012 (7)	2011 (8)	2010 (9)	2009 (10)	2008 (11)	2007 (12)	2006 (13)	2005 (14)
1	ALLETE	1.58	1.76	1.53	1.37	1.42	1.51	1.34	1.35	1.28	1.15	1.55	1.89	2.09	2.22
2	Alliant Energy	1.62	2.27	2.17	1.86	1.86	1.70	1.57	1.46	1.31	1.04	1.33	1.67	1.52	1.33
3	Ameren Corp.	1.36	1.96	1.67	1.46	1.45	1.29	1.18	0.90	0.83	0.78	1.25	1.60	1.62	1.68
4	American Electric Power	1.50	1.88	1.81	1.55	1.54	1.40	1.31	1.23	1.23	1.08	1.48	1.85	1.56	1.57
5	Avangrid, Inc.	0.84	0.97	0.83	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.27	1.72	1.57	1.36	1.33	1.25	1.21	1.19	1.07	0.94	1.11	1.29	1.30	1.13
7	Black Hills	1.47	2.03	1.94	1.59	1.79	1.62	1.21	1.14	1.07	0.83	1.22	1.57	1.47	1.63
8	CenterPoint Energy	2.41	2.53	2.73	2.43	2.27	2.30	1.99	1.87	1.96	1.77	2.49	3.13	2.75	3.06
9	CMS Energy Corp.	1.87	2.91	2.72	2.43	2.26	2.09	1.91	1.66	1.48	1.10	1.23	1.82	1.42	1.32
10	Consol. Edison	1.40	1.66	1.58	1.42	1.34	1.38	1.47	1.38	1.22	1.08	1.17	1.47	1.47	1.52
11	Dominion Resources	2.66	2.91	3.15	3.34	3.55	2.97	2.84	2.37	2.01	1.80	2.42	2.69	2.07	2.50
12	DTE Energy	1.41	2.01	1.82	1.65	1.62	1.51	1.35	1.20	1.16	0.89	1.10	1.35	1.29	1.39
13	Duke Energy	1.17	1.41	1.35	1.29	1.28	1.19	1.12	1.11	1.00	0.91	1.06	1.15	N/A	N/A
14	Edison Int'l	1.62	1.90	1.92	1.76	1.68	1.57	1.53	1.24	1.07	1.04	1.56	2.05	1.80	1.93
15	El Paso Electric	1.54	1.92	1.68	1.48	1.52	1.49	1.59	1.64	1.17	0.98	1.33	1.69	1.71	1.76
16	Entergy Corp.	1.72	1.78	1.67	1.40	1.33	1.21	1.31	1.35	1.62	1.66	2.44	2.65	1.89	2.01
17	Eversource Energy	1.39	1.72	1.64	1.53	1.47	1.38	1.28	1.50	1.31	1.12	1.31	1.60	1.22	1.05
18	Exelon Corp.	2.37	1.31	1.20	1.14	1.28	1.17	1.46	1.95	2.07	2.57	4.39	4.79	3.89	3.60
19	FirstEnergy Corp.	1.69	2.05	2.37	1.16	1.15	1.28	1.44	1.33	1.36	1.54	2.52	2.23	1.92	1.64
20	Fortis Inc.	1.49	1.41	1.26	1.33	1.35	1.45	1.59	1.59	1.56	1.33	1.48	1.63	1.96	N/A
21	Great Plains Energy	1.21	1.33	1.17	1.12	1.11	1.02	0.96	0.93	0.87	0.80	1.11	1.66	1.77	1.86
22	Hawaiian Elec.	1.61	1.83	1.63	1.71	1.49	1.54	1.62	1.54	1.44	1.16	1.61	1.57	2.01	1.78
23	IDACORP, Inc.	1.34	1.99	1.76	1.54	1.45	1.33	1.19	1.17	1.13	0.92	1.09	1.26	1.37	1.22
24	MGE Energy	1.99	2.87	2.60	2.10	2.10	2.06	1.92	1.75	1.65	1.54	1.62	1.75	1.83	2.09
25	NextEra Energy, Inc.	1.95	2.31	2.30	2.09	2.15	1.93	1.74	1.55	1.49	1.70	2.06	2.34	1.80	1.93
26	NorthWestern Corp	1.45	1.67	1.68	1.60	1.54	1.56	1.42	1.35	1.22	1.07	1.15	1.48	1.65	1.42
27	OGE Energy	1.84	1.82	1.73	1.79	2.22	2.24	1.94	1.90	1.70	1.37	1.52	1.98	1.91	1.80
28	Otter Tail Corp.	1.72	2.40	1.90	1.78	1.90	1.96	1.58	1.35	1.19	1.18	1.71	1.93	1.76	1.74
29	PG&E Corp.	1.58	1.52	1.69	1.57	1.39	1.38	1.41	1.46	1.56	1.41	1.50	1.94	1.83	1.84
30	Pinnacle West Capital	1.35	1.88	1.72	1.52	1.44	1.47	1.39	1.25	1.14	0.95	1.00	1.26	1.26	1.25
31	PNM Resources	1.12	1.82	1.56	1.33	1.21	1.09	0.98	0.80	0.69	0.56	0.66	1.23	1.21	1.45
32	Portland General	1.26	1.70	1.56	1.42	1.37	1.28	1.14	1.09	0.94	0.92	1.05	1.32	1.36	N/A
33	PPL Corp.	2.16	2.32	2.46	2.24	1.64	1.55	1.58	1.47	1.61	2.10	3.19	3.05	2.43	2.50
34	Public Serv. Enterprise	1.92	1.73	1.67	1.58	1.57	1.44	1.46	1.59	1.67	1.78	2.58	2.99	2.46	2.45
35	SCANA Corp.	1.49	1.36	1.74	1.47	1.48	1.48	1.48	1.36	1.33	1.20	1.45	1.62	1.64	1.72
36	Sempra Energy	1.75	2.15	2.00	2.17	2.20	1.84	1.53	1.28	1.35	1.32	1.60	1.87	1.70	1.73
37	Southern Co.	2.06	2.10	2.01	1.99	2.02	2.04	2.15	1.99	1.83	1.73	2.12	2.24	2.23	2.35
38	Vectren Corp.	1.83	2.72	2.29	2.11	2.08	1.82	1.57	1.53	1.41	1.34	1.64	1.74	1.77	1.82
39	WEC Energy Group	1.86	2.10	2.09	1.82	2.34	2.21	2.05	1.81	1.65	1.40	1.57	1.77	1.71	1.62
40	Westar Energy	1.37	1.94	1.95	1.49	1.44	1.33	1.26	1.20	1.10	0.93	1.10	1.36	1.30	1.41
41	Xcel Energy Inc.	1.51	2.06	1.88	1.66	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.38
42	Average	1.65	1.95	1.85	1.67	1.68	1.60	1.51	1.43	1.35	1.25	1.63	1.90	1.78	1.80
43	Median	1.55	1.90	1.74	1.57	1.53	1.49	1.47	1.37	1.31	1.15	1.48	1.71	1.71	1.73

Sources:

¹ The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.

² The Value Line Investment Survey, January 26, February 16, and March 16, 2018.

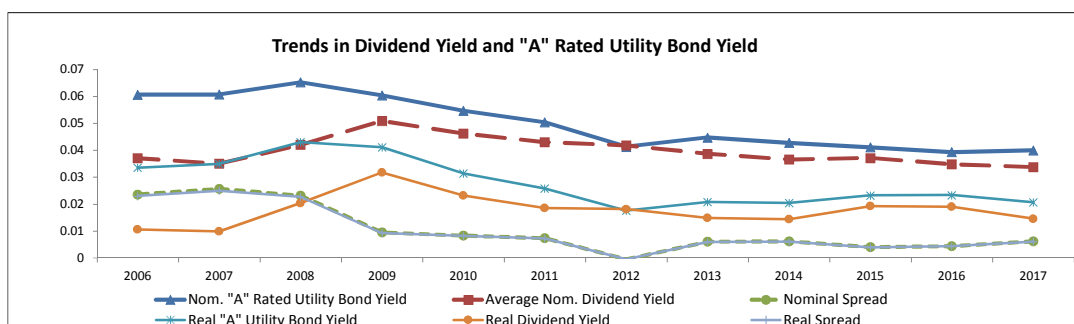
Notes:

^b Based on the average of the high and low price for 2017 and the projected 2017 Book Value per share, published in The Value Line Investment Survey, January 26, February 16, and March 16, 2018.

Oklahoma Gas and Electric Company

Electric Utilities (Valuation Metrics)

		Dividend Yield ¹												
Line	Company	12-Year	2017 ^{2a}	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		Average	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		(1)												
1	ALLETE	4.11%	3.00%	3.56%	3.97%	3.92%	3.89%	4.49%	4.58%	5.03%	5.79%	4.37%	3.60%	3.16%
2	Alliant Energy	3.86%	3.07%	3.21%	3.60%	3.53%	3.74%	4.07%	4.28%	4.61%	5.73%	4.10%	3.13%	3.32%
3	Ameren Corp.	4.76%	3.06%	3.50%	3.96%	4.02%	4.61%	4.97%	5.28%	5.76%	5.98%	6.21%	4.88%	4.93%
4	American Electric Power	4.20%	3.42%	3.54%	3.80%	3.83%	4.23%	4.58%	4.96%	4.90%	5.50%	4.20%	3.40%	4.06%
5	Avangrid, Inc.	3.93%	3.60%	4.26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	3.83%	3.16%	3.39%	3.97%	3.99%	4.51%	4.55%	4.54%	4.76%	4.49%	3.39%	2.68%	2.52%
7	Black Hills	3.89%	2.81%	2.87%	3.55%	2.84%	3.19%	4.39%	4.64%	4.79%	6.17%	4.21%	3.40%	3.79%
8	CenterPoint Energy	4.62%	4.91%	4.70%	5.06%	3.94%	3.57%	4.04%	4.27%	5.29%	6.37%	4.98%	3.87%	4.39%
9	CMS Energy Corp.	3.35%	2.89%	2.99%	3.36%	3.59%	3.76%	4.16%	4.25%	3.98%	3.97%	2.69%	1.16%	N/A
10	Consol. Edison	4.58%	3.41%	3.62%	4.12%	4.38%	4.25%	4.07%	4.46%	5.16%	5.99%	5.67%	4.84%	5.04%
11	Dominion Resources	3.92%	3.89%	3.82%	3.66%	3.43%	3.78%	4.06%	4.13%	4.41%	5.20%	3.77%	3.32%	3.60%
12	DTE Energy	4.31%	3.15%	3.34%	3.53%	3.43%	3.84%	4.19%	4.68%	4.75%	6.29%	5.24%	4.36%	4.86%
13	Duke Energy	4.81%	4.16%	4.26%	4.34%	4.26%	4.45%	4.68%	5.21%	5.71%	6.25%	5.16%	4.44%	N/A
14	Edison Int'l	2.97%	3.05%	2.81%	2.83%	2.62%	2.85%	2.97%	3.37%	3.66%	3.95%	2.69%	2.21%	2.58%
15	El Paso Electric	2.77%	2.49%	2.75%	3.13%	2.97%	2.99%	2.97%	2.11%	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	4.10%	4.44%	4.55%	4.59%	4.47%	5.07%	4.91%	4.85%	4.20%	3.97%	2.92%	2.39%	2.82%
17	Eversource Energy	3.35%	3.16%	3.22%	3.34%	3.40%	3.48%	3.52%	3.23%	3.64%	4.16%	3.25%	2.60%	3.27%
18	Exelon Corp.	3.95%	3.45%	3.75%	3.88%	3.69%	4.69%	5.73%	4.96%	4.95%	4.26%	2.78%	2.48%	2.83%
19	FirstEnergy Corp.	4.36%	4.56%	4.31%	4.23%	4.26%	4.26%	4.90%	5.23%	5.76%	5.09%	3.21%	3.12%	3.40%
20	Fortis Inc.	3.65%	3.70%	3.80%	3.76%	3.88%	3.84%	3.64%	3.58%	3.80%	4.21%	3.76%	3.01%	2.79%
21	Great Plains Energy	4.52%	3.58%	3.64%	3.76%	3.62%	3.84%	4.08%	4.15%	4.49%	5.03%	6.96%	5.49%	5.60%
22	Hawaiian Elec.	4.83%	3.52%	3.99%	4.05%	4.76%	4.72%	4.70%	5.04%	5.51%	6.89%	5.00%	5.18%	4.59%
23	IDACORP, Inc.	3.32%	2.52%	2.77%	3.06%	3.12%	3.21%	3.28%	3.10%	3.44%	3.64%	3.95%	3.55%	3.39%
24	MGE Energy	3.37%	1.95%	2.23%	2.78%	2.78%	2.91%	3.25%	3.63%	3.98%	4.36%	4.24%	4.14%	4.25%
25	NextEra Energy, Inc.	3.26%	2.84%	2.91%	3.01%	3.00%	3.30%	3.65%	3.96%	3.90%	3.55%	3.02%	2.65%	3.40%
26	NorthWestern Corp	4.16%	3.49%	3.43%	3.61%	3.30%	3.66%	4.17%	4.51%	4.93%	5.75%	5.38%	4.09%	3.65%
27	OGE Energy	3.59%	3.63%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%
28	Otter Tail Corp.	4.36%	3.03%	3.87%	4.33%	4.14%	4.11%	5.21%	5.57%	5.68%	5.38%	3.63%	3.46%	3.92%
29	PG&E Corp.	3.80%	3.67%	3.22%	3.45%	3.96%	4.20%	4.25%	4.24%	4.08%	4.26%	4.01%	3.07%	3.22%
30	Pinnacle West Capital	4.71%	3.21%	3.46%	3.88%	4.09%	3.98%	5.32%	4.81%	5.43%	6.76%	6.17%	4.75%	4.67%
31	PNM Resources	3.36%	2.50%	2.69%	2.90%	2.79%	2.99%	2.96%	3.19%	4.09%	4.76%	4.85%	3.36%	3.21%
32	Portland General	3.79%	2.90%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.36%	4.28%	3.34%	2.54%
33	PPL Corp.	4.29%	4.46%	4.25%	4.55%	4.45%	4.81%	5.07%	5.10%	5.12%	4.51%	3.10%	2.69%	3.41%
34	Public Serv. Enterprise	3.86%	3.62%	3.78%	3.81%	3.92%	4.35%	4.55%	4.24%	4.30%	4.30%	3.26%	2.73%	3.47%
35	SCANA Corp.	4.40%	4.41%	3.29%	3.90%	4.05%	4.15%	4.25%	4.78%	4.93%	5.67%	4.92%	4.29%	4.21%
36	Sempra Energy	2.92%	2.95%	2.92%	2.71%	2.61%	3.03%	3.71%	3.65%	3.08%	3.23%	2.62%	2.08%	2.47%
37	Southern Co.	4.68%	4.59%	4.42%	4.78%	4.69%	4.61%	4.29%	4.63%	5.13%	5.52%	4.58%	4.39%	4.52%
38	Vectren Corp.	4.38%	2.82%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%
39	WEC Energy Group	3.04%	3.30%	3.35%	3.49%	3.40%	3.49%	3.24%	3.35%	2.97%	3.16%	2.41%	2.14%	2.18%
40	Westar Energy	4.37%	3.00%	2.90%	3.73%	3.88%	4.27%	4.57%	4.84%	5.32%	6.27%	5.22%	4.16%	4.28%
41	Xcel Energy Inc.	4.06%	3.12%	3.33%	3.69%	3.83%	3.86%	3.90%	4.20%	4.54%	5.14%	4.70%	4.05%	4.40%
42	Average	3.98%	3.38%	3.49%	3.71%	3.66%	3.87%	4.18%	4.30%	4.63%	5.09%	4.21%	3.51%	3.71%
43	Median	3.97%	3.21%	3.43%	3.71%	3.76%	3.85%	4.18%	4.42%	4.76%	5.14%	4.21%	3.40%	3.60%
44	Implied Inflation ³	2.15%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
45	Real Dividend Yield	1.79%	1.46%	1.90%	1.93%	1.44%	1.49%	1.81%	1.86%	2.32%	3.18%	2.04%	0.99%	1.06%
46	Nominal "A" Rated Utility Bond Yield ⁴	5.01%	4.00%	3.93%	4.12%	4.28%	4.48%	4.13%	5.04%	5.46%	6.04%	6.53%	6.07%	6.07%
47	Real "A" Utility Bond Yield	2.80%	2.07%	2.34%	2.33%	2.04%	2.08%	1.76%	2.58%	3.13%	4.11%	4.31%	3.49%	3.36%
48	Nominal Spread ^b	1.03%	0.62%	0.44%	0.40%	0.61%	0.61%	-0.05%	0.74%	0.84%	0.95%	2.32%	2.57%	2.36%
49	Real Spread ^c	1.01%	0.61%	0.44%	0.40%	0.60%	0.59%	-0.05%	0.72%	0.82%	0.93%	2.27%	2.50%	2.30%



Sources:

¹ The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.

² The Value Line Investment Survey, January 26, February 16, and March 16, 2018.

³ St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org>.

⁴ www.moodys.com, Bond Yields and Key Indicators, through December 27, 2017.

Notes:

^a Based on the average of the high and low price for 2017 and the projected 2017 Dividends Declared per share, published in the Value Line Investment Survey, January 26, February 16, and March 16, 2018.

^b The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 46 - Line 42).

^c The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; (Line 47 - Line 45).

Oklahoma Gas and Electric Company

Electric Utilities (Valuation Metrics)

Line	Company	Cash Flow / Capital Spending		
		2017	2018	3 - 5 yr Projection
		(1)	(2)	(3)
1	ALLETE	1.59x	1.03x	2.57x
2	Alliant Energy	0.66x	0.66x	0.94x
3	Ameren Corp.	0.76x	0.82x	1.03x
4	American Electric Power	0.67x	0.66x	0.76x
5	Avangrid, Inc.	0.73x	0.81x	1.04x
6	Avista Corp.	0.82x	0.87x	1.04x
7	Black Hills	1.11x	1.17x	1.26x
8	CenterPoint Energy	1.11x	1.23x	1.50x
9	CMS Energy Corp.	0.81x	0.85x	1.12x
10	Consol. Edison	0.71x	0.71x	0.87x
11	Dominion Resources	0.75x	0.96x	1.03x
12	DTE Energy	0.75x	0.87x	1.05x
13	Duke Energy	0.78x	0.71x	1.00x
14	Edison Int'l	0.84x	0.75x	0.84x
15	El Paso Electric	0.99x	1.15x	1.04x
16	Entergy Corp.	0.90x	0.85x	0.96x
17	Eversource Energy	0.68x	0.71x	1.43x
18	Exelon Corp.	0.93x	1.00x	1.12x
19	FirstEnergy Corp.	0.96x	1.08x	1.29x
20	Fortis Inc.	0.74x	0.86x	1.30x
21	Great Plains Energy	1.05x	1.40x	2.50x
22	Hawaiian Elec.	1.03x	0.92x	1.06x
23	IDACORP, Inc.	1.15x	1.18x	1.30x
24	MGE Energy	1.53x	1.54x	1.57x
25	NextEra Energy, Inc.	0.93x	0.97x	1.03x
26	NorthWestern Corp	1.12x	1.08x	1.22x
27	OGE Energy	0.69x	1.21x	2.43x
28	Otter Tail Corp.	0.97x	0.84x	2.33x
29	PG&E Corp.	0.80x	0.82x	0.93x
30	Pinnacle West Capital	0.79x	0.99x	1.23x
31	PNM Resources	0.79x	1.10x	1.29x
32	Portland General	0.96x	1.25x	2.38x
33	PPL Corp.	0.73x	0.79x	1.20x
34	Public Serv. Enterprise	0.62x	0.91x	1.33x
35	SCANA Corp.	0.64x	1.23x	1.34x
36	Sempra Energy	0.80x	1.11x	1.33x
37	Southern Co.	0.72x	0.81x	1.00x
38	Vectren Corp.	0.84x	0.83x	0.86x
39	WEC Energy Group	0.80x	0.93x	1.17x
40	Westar Energy	0.87x	0.78x	0.78x
41	Xcel Energy Inc.	0.76x	0.69x	1.17x
42	Average	0.88x	0.95x	1.28x
43	Median	0.80x	0.91x	1.17x

Sources:

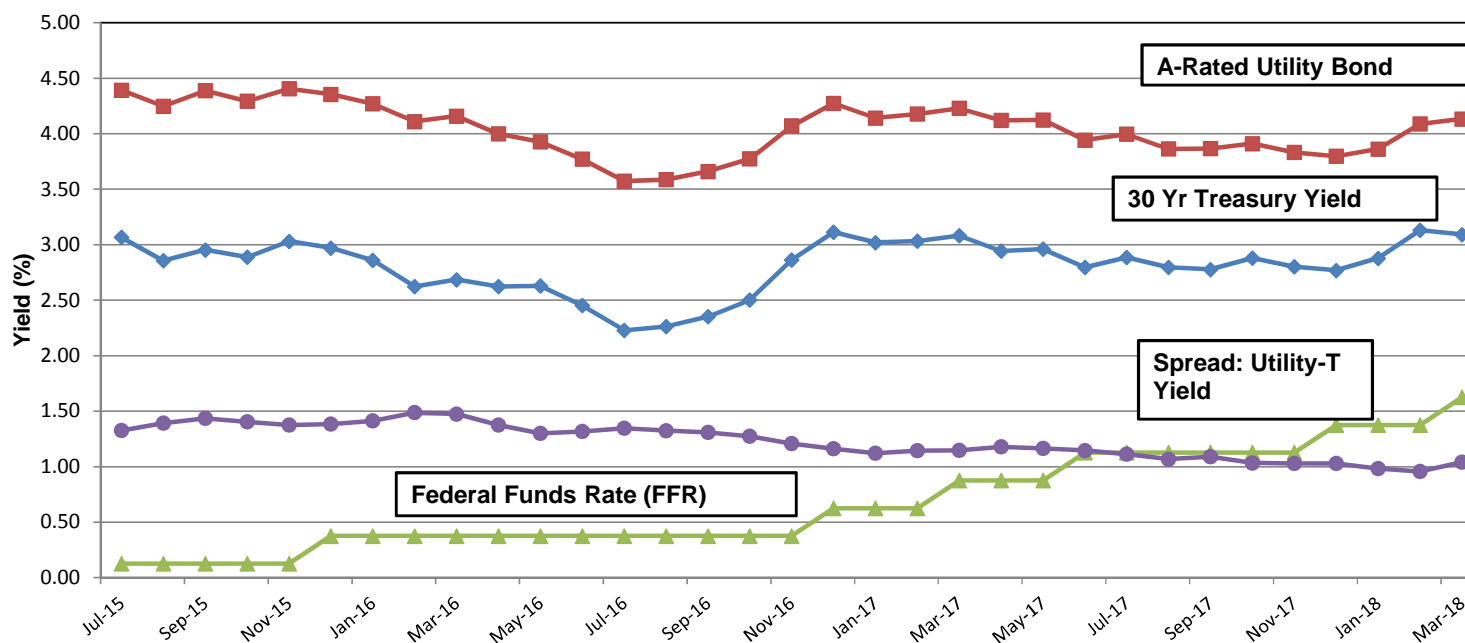
The Value Line Investment Survey Investment Analyzer Software,
downloaded on November 7, 2017.

Notes:

Based on the projected Cash Flow per share and Capital Spending
per share.

Oklahoma Gas and Electric Company

Timeline of Federal Funds Rate Increases



Fed FFR Actions:

December 2015	0.25	→	0.50
December 2016	0.50	→	0.75
March 2017	0.75	→	1.00
June 2017	1.00	→	1.25
December 2017	1.25	→	1.50
March 2018	1.50	→	1.75

Sources:

Federal Reserve Bank of New York, <https://apps.newyorkfed.org/markets/autorates/fed-funds-search-page>
 Board of Governors of the Federal Reserve System, <https://www.federalreserve.gov/datadownload/>
 Moody's Credit Trends, <https://credittrends.moody.com/>

Oklahoma Gas and Electric Company

Proxy Group

<u>Line</u>	<u>Company</u>	<u>Credit Ratings¹</u>		<u>Common Equity Ratios</u>	
		<u>S&P</u>	<u>Moody's</u>	<u>MI¹</u>	<u>Value Line²</u>
		(1)	(2)	(3)	(4)
1	ALLETE, Inc.	BBB+	A3	54.9%	58.0%
2	American Electric Power Company, Inc.	A-	Baa1	43.8%	50.0%
3	Edison International	BBB+	A3	45.0%	49.2%
4	El Paso Electric Company	BBB	Baa1	44.1%	47.3%
5	Hawaiian Electric Industries, Inc.	BBB-	N/A	54.1%	57.5%
6	IDACORP, Inc.	BBB	Baa1	54.9%	55.2%
7	NextEra Energy, Inc.	A-	Baa1	43.3%	46.7%
8	OGE Energy Corp.	A-	A3	54.6%	58.9%
9	Otter Tail Corporation	BBB	Baa2	53.5%	57.0%
10	Pinnacle West Capital Corporation	A-	A3	51.9%	54.4%
11	PNM Resources, Inc.	BBB+	Baa3	37.8%	44.0%
12	Portland General Electric Company	BBB	A3	49.9%	51.6%
13	PPL Corporation	A-	Baa2	34.0%	35.7%
14	Southern Company	A-	Baa2	33.3%	35.7%
15	Average	BBB+	Baa1	46.8%	50.1%
16	Oklahoma Gas and Electric Company	A-	A1		53.3%³

Sources:

¹ S&P Global Market Intelligence, Downloaded on April 9, 2018.

² *The Value Line Investment Survey*, January 26, February 16, and March 16, 2018.

³ OG&E Schedule F-1.

Oklahoma Gas and Electric Company

Consensus Analysts' Growth Rates

<u>Line</u>	<u>Company</u>	<u>Zacks</u>		<u>MI</u>		<u>Reuters</u>		<u>Average of Growth Rates</u>
		<u>Estimated Growth %¹</u>	<u>Number of Estimates</u>	<u>Estimated Growth %²</u>	<u>Number of Estimates</u>	<u>Estimated Growth %³</u>	<u>Number of Estimates</u>	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	ALLETE, Inc.	6.60%	N/A	6.60%	3	6.00%	1	6.40%
2	American Electric Power Company, Inc.	5.40%	N/A	5.39%	8	5.62%	2	5.47%
3	Edison International	5.50%	N/A	4.16%	4	2.62%	3	4.09%
4	El Paso Electric Company	5.10%	N/A	5.10%	2	5.20%	1	5.13%
5	Hawaiian Electric Industries, Inc.	6.70%	N/A	6.50%	2	8.50%	1	7.23%
6	IDACORP, Inc.	4.10%	N/A	4.32%	2	3.10%	1	3.84%
7	NextEra Energy, Inc.	7.90%	N/A	7.87%	5	8.08%	5	7.95%
8	OGE Energy Corp.	6.00%	N/A	5.95%	2	5.80%	1	5.92%
9	Otter Tail Corporation	N/A	N/A	8.00%	2	9.00%	1	8.50%
10	Pinnacle West Capital Corporation	3.00%	N/A	4.98%	6	3.63%	2	3.87%
11	PNM Resources, Inc.	5.40%	N/A	5.29%	5	4.30%	1	5.00%
12	Portland General Electric Company	2.90%	N/A	3.04%	4	3.50%	1	3.15%
13	PPL Corporation	6.00%	N/A	4.63%	2	2.13%	2	4.25%
14	Southern Company	4.50%	N/A	3.60%	6	3.32%	5	3.81%
15	Average	5.32%	N/A	5.39%	4	5.06%	2	5.33%

Sources:

¹ Zacks Elite, <http://www.zackselite.com/>, downloaded on April 6, 2018.

² S&P Global Market Intelligence, <https://platform.mi.spglobal.com>, downloaded on April 6, 2018.

³ Reuters, <http://www.reuters.com/>, downloaded on April 6, 2018.

Oklahoma Gas and Electric Company

Constant Growth DCF Model (Consensus Analysts' Growth Rates)

<u>Line</u>	<u>Company</u>	<u>13-Week AVG Stock Price¹</u> (1)	<u>Analysts' Growth²</u> (2)	<u>Annualized Dividend³</u> (3)	<u>Adjusted Yield</u> (4)	<u>Constant Growth DCF</u> (5)
1	ALLETE, Inc.	\$70.56	6.40%	\$2.24	3.38%	9.78%
2	American Electric Power Company, Inc.	\$67.30	5.47%	\$2.48	3.89%	9.36%
3	Edison International	\$61.81	4.09%	\$2.42	4.08%	8.17%
4	El Paso Electric Company	\$50.48	5.13%	\$1.34	2.79%	7.92%
5	Hawaiian Electric Industries, Inc.	\$33.78	7.23%	\$1.24	3.94%	11.17%
6	IDACORP, Inc.	\$84.32	3.84%	\$2.36	2.91%	6.75%
7	NextEra Energy, Inc.	\$155.58	7.95%	\$3.93	2.73%	10.68%
8	OGE Energy Corp.	\$31.66	5.92%	\$1.33	4.45%	10.37%
9	Otter Tail Corporation	\$41.97	8.50%	\$1.34	3.46%	11.96%
10	Pinnacle West Capital Corporation	\$78.50	3.87%	\$2.78	3.68%	7.55%
11	PNM Resources, Inc.	\$36.60	5.00%	\$1.06	3.04%	8.04%
12	Portland General Electric Company	\$40.87	3.15%	\$1.36	3.43%	6.58%
13	PPL Corporation	\$29.67	4.25%	\$1.58	5.55%	9.80%
14	Southern Company	\$44.21	3.81%	\$2.32	5.45%	9.25%
15	Average	\$59.09	5.33%	\$1.98	3.77%	9.10%
16	Median					9.31%

Sources:

¹ S&P Global Market Intelligence, Downloaded on April 9, 2018.

² Exhibit CCW-6.

³ *The Value Line Investment Survey*, January 26, February 16, and March 16, 2018.

Oklahoma Gas and Electric Company

Payout Ratios

<u>Line</u>	<u>Company</u>	<u>Dividends Per Share</u>		<u>Earnings Per Share</u>		<u>Payout Ratio</u>	
		<u>2016</u>	<u>Projected</u>	<u>2016</u>	<u>Projected</u>	<u>2016</u>	<u>Projected</u>
		(1)	(2)	(3)	(4)	(5)	(6)
1	ALLETE, Inc.	\$2.08	\$2.70	\$3.14	\$4.25	66.24%	63.53%
2	American Electric Power Company, Inc.	\$2.27	\$3.05	\$4.23	\$5.00	53.66%	61.00%
3	Edison International	\$1.98	\$2.90	\$3.94	\$5.25	50.25%	55.24%
4	El Paso Electric Company	\$1.23	\$1.75	\$2.39	\$3.00	51.46%	58.33%
5	Hawaiian Electric Industries, Inc.	\$1.24	\$1.40	\$2.29	\$2.00	54.15%	70.00%
6	IDACORP, Inc.	\$2.08	\$2.90	\$3.94	\$4.75	52.79%	61.05%
7	NextEra Energy, Inc.	\$3.48	\$5.90	\$5.78	\$10.25	60.21%	57.56%
8	OGE Energy Corp.	\$1.16	\$1.85	\$1.69	\$2.50	68.64%	74.00%
9	Otter Tail Corporation	\$1.25	\$1.55	\$1.60	\$2.50	78.13%	62.00%
10	Pinnacle West Capital Corporation	\$2.56	\$3.35	\$3.95	\$5.25	64.81%	63.81%
11	PNM Resources, Inc.	\$0.90	\$1.40	\$1.46	\$2.25	61.64%	62.22%
12	Portland General Electric Company	\$1.26	\$1.70	\$2.16	\$3.00	58.33%	56.67%
13	PPL Corporation	\$1.52	\$1.88	\$2.79	\$2.75	54.48%	68.36%
14	Southern Company	\$2.22	\$2.70	\$2.83	\$3.75	78.45%	72.00%
15	Average	\$1.80	\$2.50	\$3.01	\$4.04	60.95%	63.27%

Source:

The Value Line Investment Survey, January 26, February 16, and March 16, 2018.

Oklahoma Gas and Electric Company

Sustainable Growth Rate

Line	Company	3 to 5 Year Projections									Sustainable	
		Dividends	Earnings	Book Value	Book Value		Adjustment	Adjusted	Payout	Retention	Internal	Growth
		Per Share	Per Share	Per Share	Growth	ROE	Factor	ROE	Ratio	Rate	Growth Rate	Rate
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	ALLETE, Inc.	\$2.70	\$4.25	\$49.25	4.34%	8.63%	1.02	8.81%	63.53%	36.47%	3.21%	4.95%
2	American Electric Power Company, Inc.	\$3.05	\$5.00	\$46.75	4.75%	10.70%	1.02	10.94%	61.00%	39.00%	4.27%	5.00%
3	Edison International	\$2.90	\$5.25	\$44.75	3.98%	11.73%	1.02	11.96%	55.24%	44.76%	5.35%	5.35%
4	El Paso Electric Company	\$1.75	\$3.00	\$32.25	3.99%	9.30%	1.02	9.48%	58.33%	41.67%	3.95%	4.16%
5	Hawaiian Electric Industries, Inc.	\$1.40	\$2.00	\$22.00	2.94%	9.09%	1.01	9.22%	70.00%	30.00%	2.77%	3.25%
6	IDACORP, Inc.	\$2.90	\$4.75	\$52.00	4.00%	9.13%	1.02	9.31%	61.05%	38.95%	3.63%	3.63%
7	NextEra Energy, Inc.	\$5.90	\$10.25	\$76.50	6.64%	13.40%	1.03	13.83%	57.56%	42.44%	5.87%	10.36%
8	OGE Energy Corp.	\$1.85	\$2.50	\$22.50	4.54%	11.11%	1.02	11.36%	74.00%	26.00%	2.95%	2.95%
9	Otter Tail Corporation	\$1.55	\$2.50	\$24.45	6.21%	10.22%	1.03	10.53%	62.00%	38.00%	4.00%	6.75%
10	Pinnacle West Capital Corporation	\$3.35	\$5.25	\$51.75	3.70%	10.14%	1.02	10.33%	63.81%	36.19%	3.74%	4.13%
11	PNM Resources, Inc.	\$1.40	\$2.25	\$24.00	2.67%	9.38%	1.01	9.50%	62.22%	37.78%	3.59%	3.59%
12	Portland General Electric Company	\$1.70	\$3.00	\$31.75	3.80%	9.45%	1.02	9.62%	56.67%	43.33%	4.17%	4.30%
13	PPL Corporation	\$1.88	\$2.75	\$20.25	5.65%	13.58%	1.03	13.95%	68.36%	31.64%	4.41%	5.89%
14	Southern Company	\$2.70	\$3.75	\$28.00	1.91%	13.39%	1.01	13.52%	72.00%	28.00%	3.79%	4.11%
15	Average	\$2.50	\$4.04	\$37.59	4.22%	10.66%	1.02	10.88%	63.27%	36.73%	3.98%	4.89%

Sources and Notes:

Cols. (1), (2) and (3): *The Value Line Investment Survey*, January 26, February 16, and March 16, 2018.

Col. (4): [Col. (3) / Page 2 Col. (2)] ^ (1/number of years projected) - 1.

Col. (5): Col. (2) / Col. (3).

Col. (6): [2 * (1 + Col. (4))] / (2 + Col. (4)).

Col. (7): Col. (6) * Col. (5).

Col. (8): Col. (1) / Col. (2).

Col. (9): 1 - Col. (8).

Col. (10): Col. (9) * Col. (7).

Col. (11): Col. (10) + Page 2 Col. (9).

Oklahoma Gas and Electric Company

Sustainable Growth Rate

Line	Company	13-Week Average Stock Price ¹	2016 Book Value Per Share ²	Market to Book Ratio ³	Common Shares Outstanding (in Millions) ²		Growth (6)	S Factor ³ (7)	V Factor ⁴ (8)	S * V (9)
		(1)	(2)	(3)	2016 (4)	3-5 Years (5)				
1	ALLETE, Inc.	\$70.56	\$38.17	1.85	49.60	56.00	2.04%	3.78%	45.90%	1.73%
2	American Electric Power Company, Inc.	\$67.30	\$35.38	1.90	491.71	516.00	0.81%	1.53%	47.43%	0.73%
3	Edison International	\$61.81	\$36.82	1.68	325.81	325.81	0.00%	0.00%	40.43%	0.00%
4	El Paso Electric Company	\$50.48	\$26.52	1.90	40.52	41.00	0.24%	0.45%	47.46%	0.21%
5	Hawaiian Electric Industries, Inc.	\$33.78	\$19.03	1.78	108.58	112.00	0.62%	1.10%	43.67%	0.48%
6	IDACORP, Inc.	\$84.32	\$42.74	1.97	50.40	50.40	0.00%	0.00%	49.31%	0.00%
7	NextEra Energy, Inc.	\$155.58	\$52.01	2.99	468.00	535.00	2.26%	6.75%	66.57%	4.49%
8	OGE Energy Corp.	\$31.66	\$17.24	1.84	199.70	199.70	0.00%	0.00%	45.55%	0.00%
9	Otter Tail Corporation	\$41.97	\$17.03	2.46	39.35	44.00	1.88%	4.63%	59.43%	2.75%
10	Pinnacle West Capital Corporation	\$78.50	\$43.15	1.82	111.34	114.00	0.47%	0.86%	45.03%	0.39%
11	PNM Resources, Inc.	\$36.60	\$21.04	1.74	79.65	79.65	0.00%	0.00%	42.51%	0.00%
12	Portland General Electric Company	\$40.87	\$26.35	1.55	88.95	90.00	0.23%	0.36%	35.52%	0.13%
13	PPL Corporation	\$29.67	\$14.56	2.04	679.73	740.00	1.43%	2.91%	50.93%	1.48%
14	Southern Company	\$44.21	\$25.00	1.77	990.39	1,016.00	0.43%	0.75%	43.46%	0.33%
15	Average	\$59.09	\$29.65	1.95	265.98	279.97	0.74%	1.65%	47.37%	0.91%

Sources and Notes:

¹ S&P Global Market Intelligence, Downloaded on April 9, 2018.

² *The Value Line Investment Survey*, January 26, February 16, and March 16, 2018.

³ Expected Growth in the Number of Shares, Column (3) * Column (6).

⁴ Expected Profit of Stock Investment, [1 - 1 / Column (3)].

Oklahoma Gas and Electric Company

Constant Growth DCF Model (Sustainable Growth Rate)

<u>Line</u>	<u>Company</u>	<u>13-Week AVG Stock Price¹</u> (1)	<u>Sustainable Growth²</u> (2)	<u>Annualized Dividend³</u> (3)	<u>Adjusted Yield</u> (4)	<u>Constant Growth DCF</u> (5)
1	ALLETE, Inc.	\$70.56	4.95%	\$2.24	3.33%	8.28%
2	American Electric Power Company, Inc.	\$67.30	5.00%	\$2.48	3.87%	8.87%
3	Edison International	\$61.81	5.35%	\$2.42	4.12%	9.48%
4	El Paso Electric Company	\$50.48	4.16%	\$1.34	2.77%	6.93%
5	Hawaiian Electric Industries, Inc.	\$33.78	3.25%	\$1.24	3.79%	7.04%
6	IDACORP, Inc.	\$84.32	3.63%	\$2.36	2.90%	6.53%
7	NextEra Energy, Inc.	\$155.58	10.36%	\$3.93	2.79%	13.15%
8	OGE Energy Corp.	\$31.66	2.95%	\$1.33	4.32%	7.28%
9	Otter Tail Corporation	\$41.97	6.75%	\$1.34	3.41%	10.16%
10	Pinnacle West Capital Corporation	\$78.50	4.13%	\$2.78	3.69%	7.81%
11	PNM Resources, Inc.	\$36.60	3.59%	\$1.06	3.00%	6.59%
12	Portland General Electric Company	\$40.87	4.30%	\$1.36	3.47%	7.77%
13	PPL Corporation	\$29.67	5.89%	\$1.58	5.64%	11.53%
14	Southern Company	\$44.21	4.11%	\$2.32	5.46%	9.58%
15	Average	\$59.09	4.89%	\$1.98	3.75%	8.64%
16	Median					8.05%

Sources:

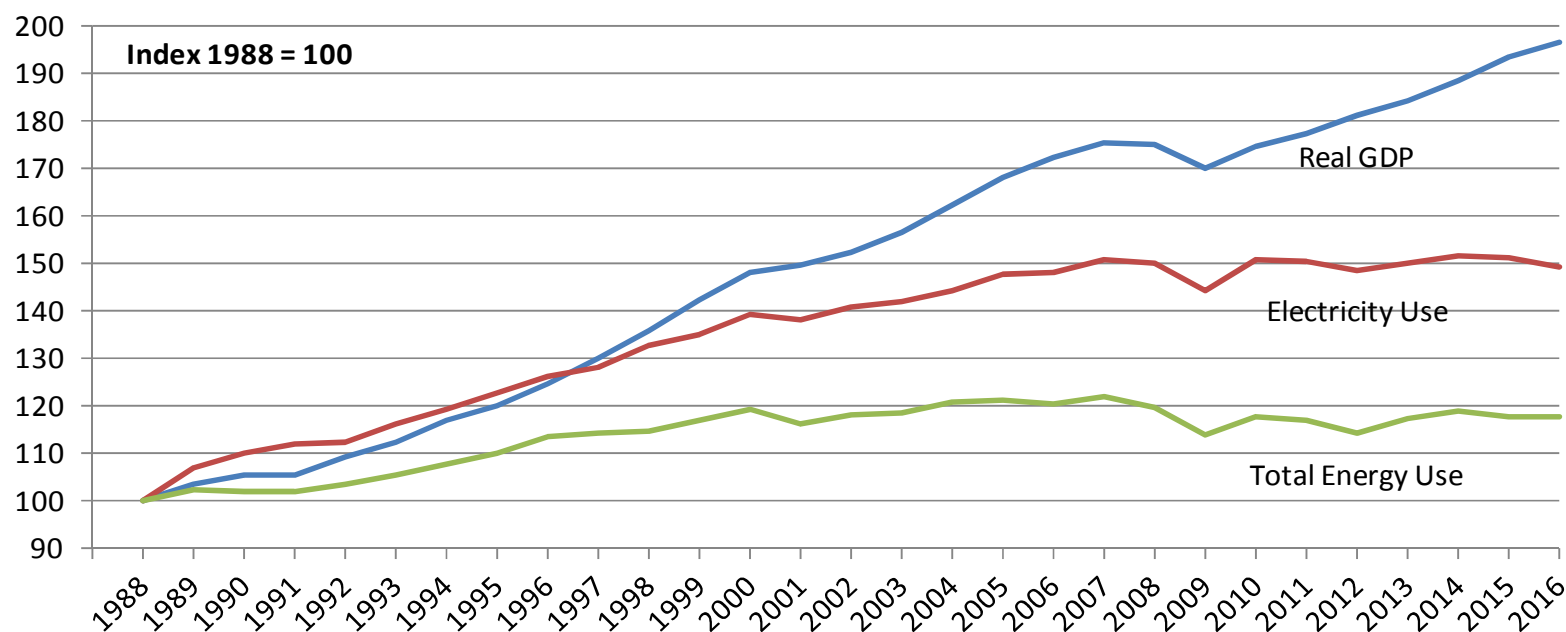
¹ S&P Global Market Intelligence, Downloaded on April 9, 2018.

² Exhibit CCW-9, page 1.

³ *The Value Line Investment Survey*, January 26, February 16, and March 16, 2018.

Oklahoma Gas and Electric Company

Electricity Sales Are Linked to U.S. Economic Growth



Note:

1988 represents the base year. Graph depicts increases or decreases from the base year.

Sources:

U.S. Energy Information Administration

Federal Reserve Bank of St. Louis

Oklahoma Gas and Electric Company

Multi-Stage Growth DCF Model

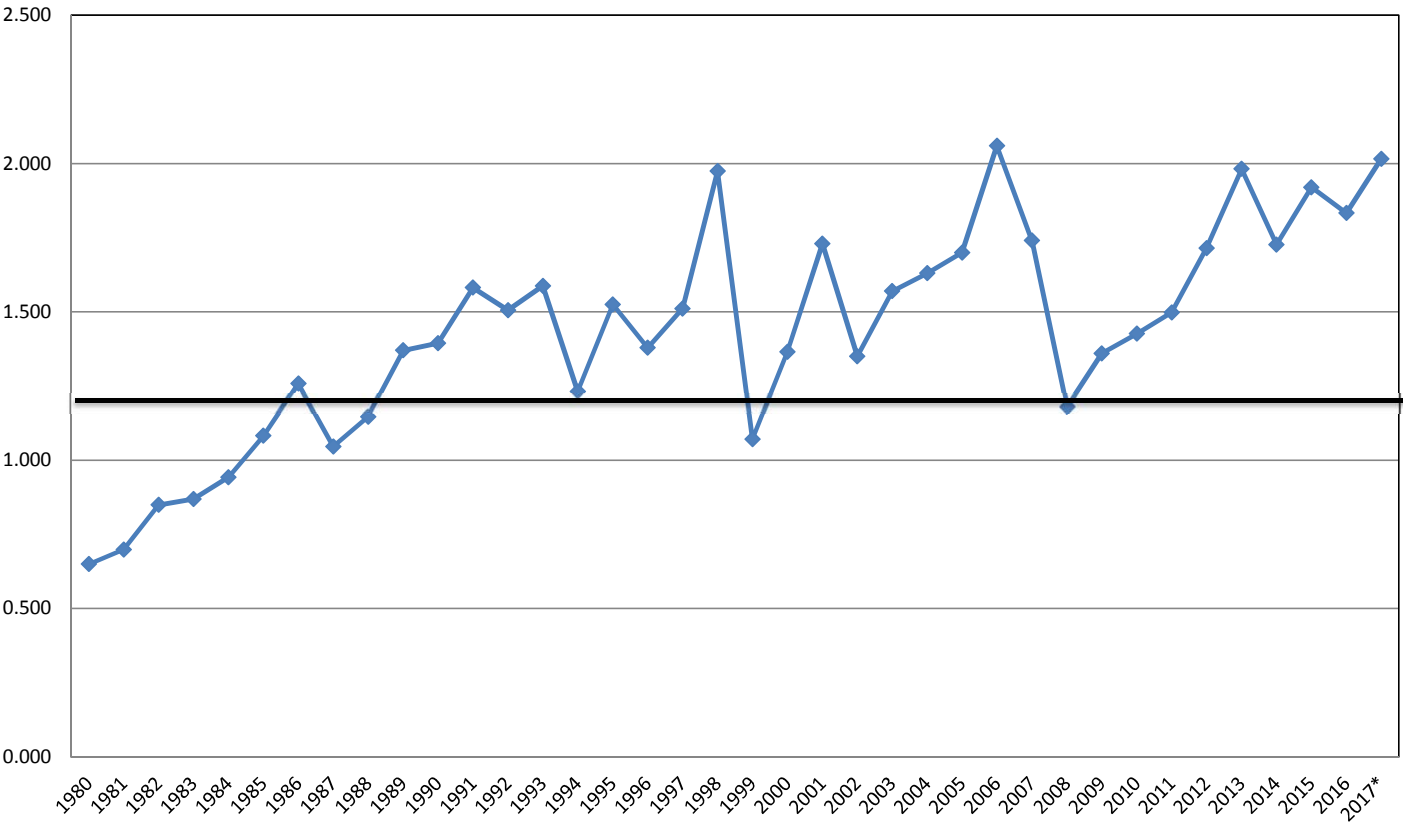
Line	Company	13-Week AVG	Annualized	First Stage	Second Stage Growth					Third Stage	Multi-Stage
		<u>Stock Price¹</u>	<u>Dividend²</u>	<u>Growth³</u>	<u>Year 6</u>	<u>Year 7</u>	<u>Year 8</u>	<u>Year 9</u>	<u>Year 10</u>	<u>Growth⁴</u>	<u>Growth DCF</u>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	ALLETE, Inc.	\$70.56	\$2.24	6.40%	6.03%	5.67%	5.30%	4.93%	4.57%	4.20%	8.00%
2	American Electric Power Company, Inc.	\$67.30	\$2.48	5.47%	5.26%	5.05%	4.84%	4.62%	4.41%	4.20%	8.36%
3	Edison International	\$61.81	\$2.42	4.09%	4.11%	4.13%	4.15%	4.16%	4.18%	4.20%	8.25%
4	El Paso Electric Company	\$50.48	\$1.34	5.13%	4.98%	4.82%	4.67%	4.51%	4.36%	4.20%	7.13%
5	Hawaiian Electric Industries, Inc.	\$33.78	\$1.24	7.23%	6.73%	6.22%	5.72%	5.21%	4.71%	4.20%	8.82%
6	IDACORP, Inc.	\$84.32	\$2.36	3.84%	3.90%	3.96%	4.02%	4.08%	4.14%	4.20%	7.03%
7	NextEra Energy, Inc.	\$155.58	\$3.93	7.95%	7.33%	6.70%	6.08%	5.45%	4.83%	4.20%	7.54%
8	OGE Energy Corp.	\$31.66	\$1.33	5.92%	5.63%	5.34%	5.06%	4.77%	4.49%	4.20%	9.07%
9	Otter Tail Corporation	\$41.97	\$1.34	8.50%	7.78%	7.07%	6.35%	5.63%	4.92%	4.20%	8.55%
10	Pinnacle West Capital Corporation	\$78.50	\$2.78	3.87%	3.93%	3.98%	4.04%	4.09%	4.15%	4.20%	7.81%
11	PNM Resources, Inc.	\$36.60	\$1.06	5.00%	4.86%	4.73%	4.60%	4.47%	4.33%	4.20%	7.37%
12	Portland General Electric Company	\$40.87	\$1.36	3.15%	3.32%	3.50%	3.67%	3.85%	4.02%	4.20%	7.43%
13	PPL Corporation	\$29.67	\$1.58	4.25%	4.24%	4.24%	4.23%	4.22%	4.21%	4.20%	9.77%
14	Southern Company	\$44.21	\$2.32	3.81%	3.87%	3.94%	4.00%	4.07%	4.13%	4.20%	9.54%
15	Average	\$59.09	\$1.98	5.33%	5.14%	4.95%	4.76%	4.58%	4.39%	4.20%	8.19%
16	Median										8.13%

Sources:

¹ S&P Global Market Intelligence, Downloaded on April 9, 2018.² *The Value Line Investment Survey*, January 26, February 16, and March 16, 2018.³ Exhibit CCW-6.⁴ *Blue Chip Economic Indicators*, March 10, 2018 at 14.

Oklahoma Gas and Electric Company

Common Stock Market/Book Ratio



Source:
1980 - 2000: Mergent Public Utility Manual.
2001 - 2015: AUS Utility Reports, multiple dates.
2016 - 2017: Value Line Investment Survey, multiple dates.
* Value Line Investment Survey Reports, January 26, February 16, March 2, and March 16, 2018.

Oklahoma Gas and Electric Company

Equity Risk Premium - Treasury Bond

<u>Line</u>	<u>Year</u>	<u>Authorized Electric Returns¹</u> (1)	<u>30 yr. Treasury Bond Yield²</u> (2)	<u>Indicated Risk Premium</u> (3)	<u>Rolling 5 - Year Average</u> (4)	<u>Rolling 10 - Year Average</u> (5)
1	1986	13.93%	7.80%	6.13%		
2	1987	12.99%	8.58%	4.41%		
3	1988	12.79%	8.96%	3.83%		
4	1989	12.97%	8.45%	4.52%		
5	1990	12.70%	8.61%	4.09%	4.60%	
6	1991	12.55%	8.14%	4.41%	4.25%	
7	1992	12.09%	7.67%	4.42%	4.26%	
8	1993	11.41%	6.60%	4.81%	4.45%	
9	1994	11.34%	7.37%	3.97%	4.34%	
10	1995	11.55%	6.88%	4.67%	4.46%	4.53%
11	1996	11.39%	6.70%	4.69%	4.51%	4.38%
12	1997	11.40%	6.61%	4.79%	4.59%	4.42%
13	1998	11.66%	5.58%	6.08%	4.84%	4.65%
14	1999	10.77%	5.87%	4.90%	5.03%	4.68%
15	2000	11.43%	5.94%	5.49%	5.19%	4.82%
16	2001	11.09%	5.49%	5.60%	5.37%	4.94%
17	2002	11.16%	5.43%	5.73%	5.56%	5.07%
18	2003	10.97%	4.96%	6.01%	5.55%	5.19%
19	2004	10.75%	5.05%	5.70%	5.71%	5.37%
20	2005	10.54%	4.65%	5.89%	5.79%	5.49%
21	2006	10.34%	4.90%	5.44%	5.76%	5.56%
22	2007	10.31%	4.83%	5.48%	5.71%	5.63%
23	2008	10.37%	4.28%	6.09%	5.72%	5.63%
24	2009	10.52%	4.07%	6.45%	5.87%	5.79%
25	2010	10.29%	4.25%	6.04%	5.90%	5.84%
26	2011	10.19%	3.91%	6.28%	6.07%	5.91%
27	2012	10.01%	2.92%	7.09%	6.39%	6.05%
28	2013	9.81%	3.45%	6.36%	6.44%	6.08%
29	2014	9.75%	3.34%	6.41%	6.44%	6.15%
30	2015	9.60%	2.84%	6.76%	6.58%	6.24%
31	2016	9.60%	2.60%	7.00%	6.72%	6.40%
32	2017	9.68%	2.90%	6.79%	6.66%	6.53%
33	2018 ³	9.59%	3.03%	6.56%	6.70%	6.57%
34	Average	11.08%	5.53%	5.54%	5.50%	5.50%
35	Minimum				4.25%	4.38%
36	Maximum				6.72%	6.57%

Sources:

¹ *Regulatory Research Associates, Inc.*, Regulatory Focus, Major Rate Case Decisions, Jan. 1997 pg. 5, and Jan. 2011 pg. 3. *S&P Global Market Intelligence*, RRA Regulatory Focus, Major Rate Case Decisions, January - March 2018, April 17, 2018, p. 8.

2006 - 2017 Authorized Returns exclude limited issue rider cases.

² St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org/>.

The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.

³ Data includes January - March, 2018.

Oklahoma Gas and Electric Company

Equity Risk Premium - Utility Bond

<u>Line</u>	<u>Year</u>	<u>Authorized Electric Returns¹</u> (1)	<u>Average "A" Rated Utility Bond Yield²</u> (2)	<u>Indicated Risk Premium</u> (3)	<u>Rolling 5 - Year Average</u> (4)	<u>Rolling 10 - Year Average</u> (5)
1	1986	13.93%	9.58%	4.35%		
2	1987	12.99%	10.10%	2.89%		
3	1988	12.79%	10.49%	2.30%		
4	1989	12.97%	9.77%	3.20%		
5	1990	12.70%	9.86%	2.84%	3.12%	
6	1991	12.55%	9.36%	3.19%	2.88%	
7	1992	12.09%	8.69%	3.40%	2.99%	
8	1993	11.41%	7.59%	3.82%	3.29%	
9	1994	11.34%	8.31%	3.03%	3.26%	
10	1995	11.55%	7.89%	3.66%	3.42%	3.27%
11	1996	11.39%	7.75%	3.64%	3.51%	3.20%
12	1997	11.40%	7.60%	3.80%	3.59%	3.29%
13	1998	11.66%	7.04%	4.62%	3.75%	3.52%
14	1999	10.77%	7.62%	3.15%	3.77%	3.52%
15	2000	11.43%	8.24%	3.19%	3.68%	3.55%
16	2001	11.09%	7.76%	3.33%	3.62%	3.56%
17	2002	11.16%	7.37%	3.79%	3.61%	3.60%
18	2003	10.97%	6.58%	4.39%	3.57%	3.66%
19	2004	10.75%	6.16%	4.59%	3.86%	3.82%
20	2005	10.54%	5.65%	4.89%	4.20%	3.94%
21	2006	10.34%	6.07%	4.27%	4.39%	4.00%
22	2007	10.31%	6.07%	4.24%	4.48%	4.04%
23	2008	10.37%	6.53%	3.84%	4.37%	3.97%
24	2009	10.52%	6.04%	4.48%	4.34%	4.10%
25	2010	10.29%	5.47%	4.82%	4.33%	4.26%
26	2011	10.19%	5.04%	5.15%	4.51%	4.45%
27	2012	10.01%	4.13%	5.88%	4.83%	4.66%
28	2013	9.81%	4.48%	5.33%	5.13%	4.75%
29	2014	9.75%	4.28%	5.47%	5.33%	4.84%
30	2015	9.60%	4.12%	5.48%	5.46%	4.90%
31	2016	9.60%	3.93%	5.67%	5.57%	5.04%
32	2017	9.68%	4.00%	5.68%	5.53%	5.18%
33	2018 ³	9.59%	4.03%	5.56%	5.57%	5.35%
34	Average	11.08%	6.90%	4.18%	4.14%	4.10%
35	Minimum				2.88%	3.20%
36	Maximum				5.57%	5.35%

Sources:

¹ *Regulatory Research Associates, Inc.*, Regulatory Focus, Major Rate Case Decisions, Jan. 1997 pg. 5, and Jan. 2011 pg. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January- March 2018,
 April 17, 2018, p. 8.

2006 - 2017 Authorized Returns exclude limited issue rider cases.

² Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.

The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record

The utility yields from 2010-2017 were obtained from <http://credittrends.moodys.com/>

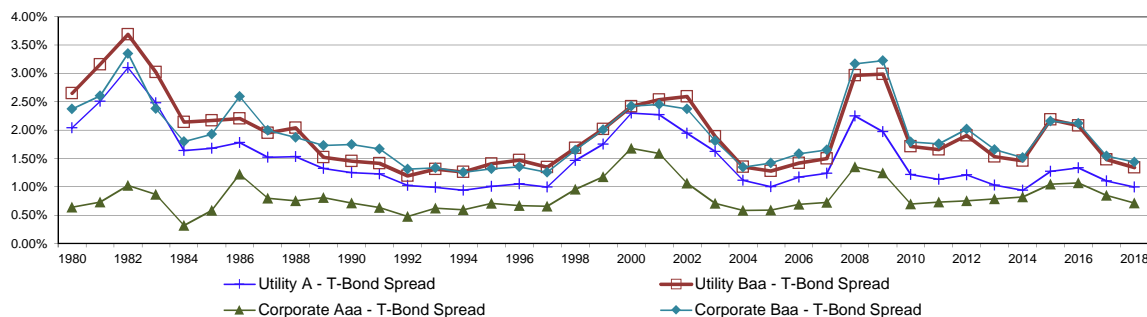
³ Data includes January - March, 2018.

Oklahoma Gas and Electric Company

Bond Yield Spreads

Line	Year	T-Bond Yield ¹ (1)	Public Utility Bond				Corporate Bond				Utility to Corporate	
			A ² (2)	Baa ² (3)	A-T-Bond Spread (4)	Baa-T-Bond Spread (5)	Aaa ³ (6)	Baa ³ (7)	Aaa-T-Bond Spread (8)	Baa-T-Bond Spread (9)	Baa Spread (10)	A-Aaa Spread (11)
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.90%	6.07%	6.32%	1.17%	1.42%	5.59%	6.48%	0.69%	1.58%	-0.16%	0.48%
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.73%
31	2010	4.25%	5.47%	5.96%	1.22%	1.71%	4.95%	6.04%	0.70%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.67%	0.73%	1.76%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.83%	1.21%	1.90%	3.67%	4.94%	0.75%	2.02%	-0.11%	0.46%
34	2013	3.45%	4.48%	4.98%	1.03%	1.53%	4.24%	5.10%	0.79%	1.65%	-0.12%	0.24%
35	2014	3.34%	4.28%	4.80%	0.94%	1.46%	4.16%	4.86%	0.82%	1.52%	-0.06%	0.12%
36	2015	2.84%	4.12%	5.03%	1.27%	2.19%	3.89%	5.00%	1.05%	2.16%	0.03%	0.23%
37	2016	2.60%	3.93%	4.67%	1.33%	2.08%	3.66%	4.71%	1.07%	2.12%	-0.04%	0.27%
38	2017	2.90%	4.00%	4.38%	1.10%	1.48%	3.74%	4.44%	0.85%	1.55%	-0.06%	0.26%
39	2018 ⁴	3.03%	4.03%	4.37%	0.99%	1.34%	3.75%	4.47%	0.71%	1.44%	-0.09%	0.28%
40	Average	6.53%	8.02%	8.46%	1.50%	1.93%	7.36%	8.45%	0.84%	1.92%	0.01%	0.66%

Yield Spreads
Treasury Vs. Corporate & Treasury Vs. Utility



Sources:

¹ St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org/>.

² The utility yields for the period 1980-2009 were obtained from Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.

The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record.

The utility yields for the period 2010-2017 were obtained from <http://credittrends.moodys.com/>.

³ The corporate yields for the period 1980-2009 were obtained from the St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org/>.

The corporate yields from 2010-2017 were obtained from <http://credittrends.moodys.com/>.

⁴ Data includes January - March, 2018.

Oklahoma Gas and Electric Company

Treasury and Utility Bond Yields

<u>Line</u>	<u>Date</u>	<u>Treasury Bond Yield¹</u> (1)	<u>"A" Rated Utility Bond Yield²</u> (3)	<u>"Baa" Rated Utility Bond Yield²</u> (4)
1	04/06/18	3.01%	4.12%	4.53%
2	03/29/18	2.97%	4.07%	4.48%
3	03/23/18	3.06%	4.15%	4.57%
4	03/16/18	3.08%	4.12%	4.52%
5	03/09/18	3.16%	4.18%	4.55%
6	03/02/18	3.14%	4.12%	4.46%
7	02/23/18	3.16%	4.12%	4.46%
8	02/16/18	3.13%	4.10%	4.43%
9	02/09/18	3.14%	4.08%	4.41%
10	02/02/18	3.08%	4.04%	4.35%
11	01/26/18	2.91%	3.88%	4.19%
12	01/19/18	2.91%	3.89%	4.21%
13	01/12/18	2.85%	3.84%	4.16%
14	Average	3.05%	4.05%	4.41%
15	Spread To Treasury		1.00%	1.36%

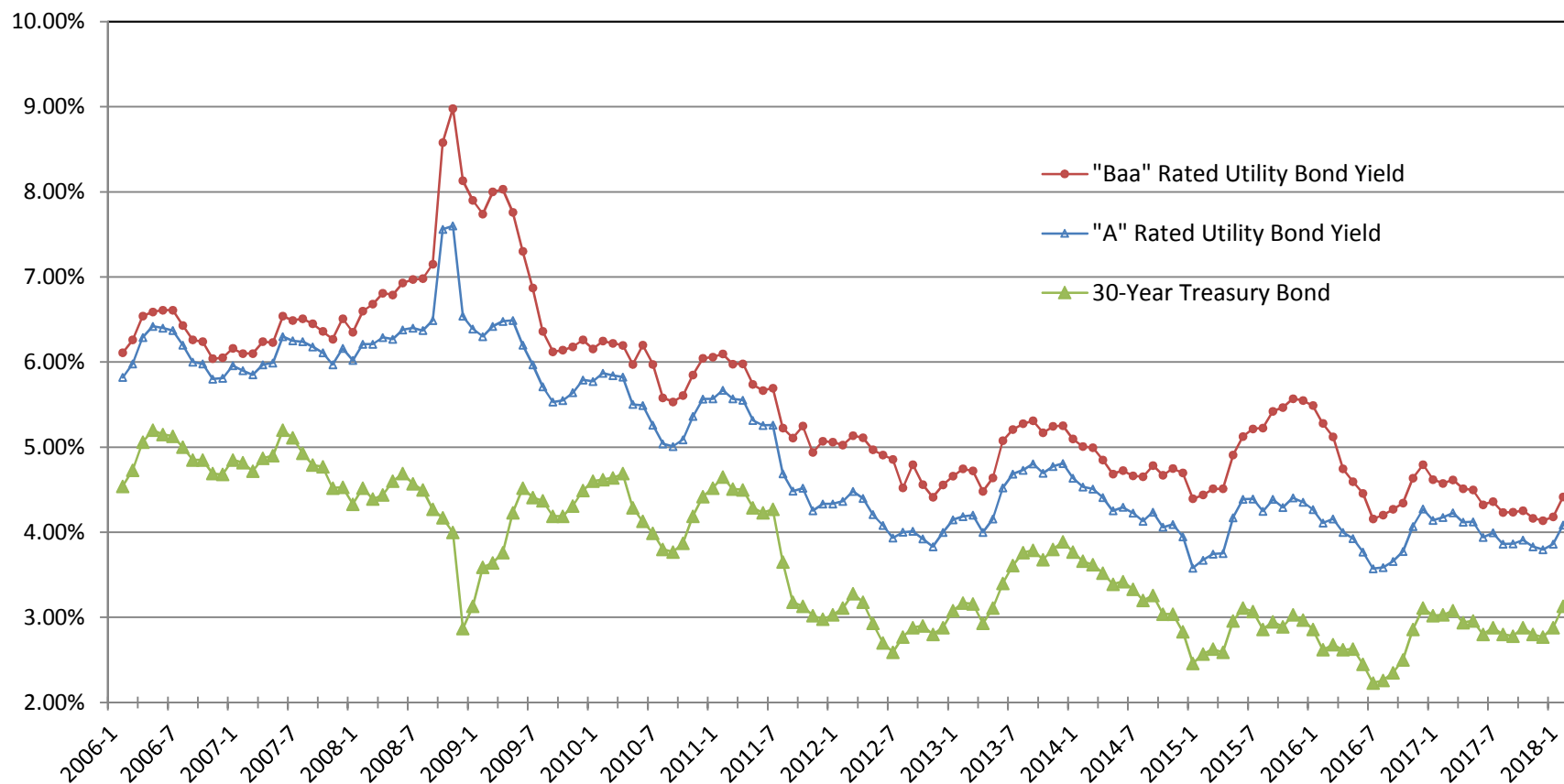
Sources:

¹ St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org>.

² <http://credittrends.moody's.com/>.

Oklahoma Gas and Electric Company

Trends in Bond Yields



Sources:

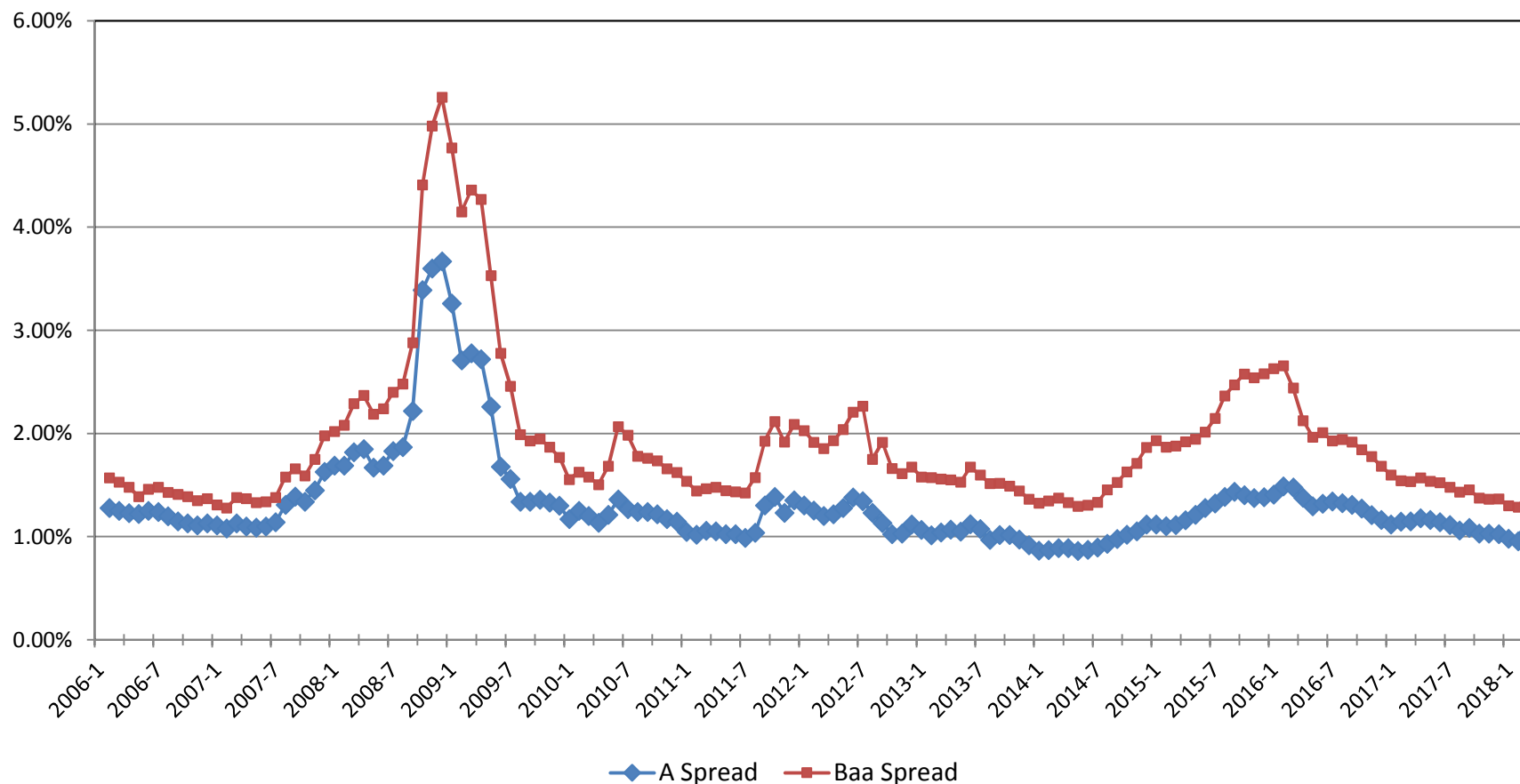
Mergent Bond Record.

www.moodys.com, Bond Yields and Key Indicators.

St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org/>

Oklahoma Gas and Electric Company

Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



Sources:

Mergent Bond Record.

www.moodys.com, Bond Yields and Key Indicators.

St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org/>

Oklahoma Gas and Electric Company

Value Line Beta

<u>Line</u>	<u>Company</u>	<u>Beta</u>
1	ALLETE, Inc.	0.75
2	American Electric Power Company, Inc.	0.65
3	Edison International	0.65
4	El Paso Electric Company	0.80
5	Hawaiian Electric Industries, Inc.	0.70
6	IDACORP, Inc.	0.70
7	NextEra Energy, Inc.	0.65
8	OGE Energy Corp.	0.95
9	Otter Tail Corporation	0.85
10	Pinnacle West Capital Corporation	0.70
11	PNM Resources, Inc.	0.75
12	Portland General Electric Company	0.70
13	PPL Corporation	0.75
14	Southern Company	0.55
15	Average	0.73

Source:
The Value Line Investment Survey,
 January 26, February 16, and March 16, 2018.

Oklahoma Gas and Electric Company

CAPM Return

<u>Line</u>	<u>Description</u>	High Market Risk <u>Premium</u> (1)	Low Market Risk <u>Premium</u> (2)
1	Risk-Free Rate ¹	3.80%	3.80%
2	Risk Premium ²	7.70%	6.10%
3	Beta ³	0.73	0.73
4	CAPM	9.38%	8.22%

Sources:

¹ *Blue Chip Financial Forecasts*, April 1, 2018, at 2.

² *Duff & Phelps, 2018 SBI Yearbook* at 6-17 and 6-18, and
Duff & Phelps, 2018 Valuation Handbook at 3-1.

³ Exhibit CCW-18.

Oklahoma Gas and Electric Company

Standard & Poor's Credit Metrics

Line	Description	Retail Cost of Service Amount	S&P Benchmark (Medial Volatility) ^{1/2}			Reference (5)
		(1)	Intermediate (2)	Significant (3)	Aggressive (4)	
1	Rate Base (OK Retail)	\$ 4,583,074,714				Schedule B-1
2	Weighted Common Return	4.99%				Page 2, Line 1, Col. 3.
3	Pre-Tax Rate of Return	9.18%				Page 2, Line 3, Col. 4.
4	Income to Common	\$ 228,588,140				Line 1 x Line 2.
5	EBIT	\$ 420,869,557				Line 1 x Line 3.
6	Depreciation & Amortization	\$ 283,495,359				Sch. H-1 less BCA's Adjustment
7	Imputed Amortization*	\$ 2,115,993				S&P Capital IQ
8	Capitalized Interest	\$ (4,218,069)				S&P Capital IQ
9	Deferred Income Taxes & ITC	\$ 41,439,949				Schedule J-1
10	Funds from Operations (FFO)	\$ 551,421,372				Sum of Line 4 and Lines 6 through 9.
11	Imputed Interest Expense*	\$ 11,569,306				S&P Capital IQ
12	EBITDA	\$ 718,050,215				Sum of Lines 5 through 7 and Line 11.
13	Total Adjusted Debt Ratio	49.4%				Page 3, Line 3, Col. 2.
14	Debt to EBITDA	3.2x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 13) / Line 12.
15	FFO to Total Debt	24%	23% - 35%	13% - 23%	9% - 13%	Line 10 / (Line 1 x Line 13).
16	Indicative Credit Rating		A	A-	BBB	

Sources:

¹ Standard & Poor's: "Criteria: Corporate Methodology," November 19, 2013.

Note:

Based on the September 2017 S&P report, OG&E has an "Excellent" business profile and an "Intermediate" financial profile, and falls under the 'Medial Volatility' matrix.

* The imputed amounts were allocated based on the ratio of OG&E OK Retail Rate Base to Total Company Retail Rate Base of 89.8%.

S&P Business/Financial Risk Profile Matrix			
Business Risk	Financial Risk Profile		
	Intermediate	Significant	Aggressive
Excellent	A	A-	BBB
Strong	A-	BBB	BB
Satisfactory	BBB	BB+	BB-

Oklahoma Gas and Electric Company

Standard & Poor's Credit Metrics (Pre-Tax Rate of Return)

<u>Line</u>	<u>Description</u>	<u>Weight</u> (1)	<u>Cost</u> (2)	<u>Weighted</u> <u>Cost</u> (3)	<u>Pre-Tax</u> <u>Weighted</u> <u>Cost</u> (4)
1	Common Equity	53.34%	9.35%	4.99%	6.70%
2	Long-Term Debt	<u>46.66%</u>	5.32%	<u>2.48%</u>	<u>2.48%</u>
3	Total	100.00%		7.47%	9.18%
4	Tax Conversion Factor*				1.3435

Source:

*Schedule B-1

Oklahoma Gas and Electric Company

Financial Capital Structure

<u>Line</u>	<u>Description</u>	<u>Amount</u> <u>(1)</u>	<u>Weight</u> <u>(2)</u>
1	Long-Term Debt	\$ 2,985,002,653	44.2%
2	Debt Adjustments incl. ST Debt ¹	<u>\$ 351,378,212</u>	<u>5.2%</u>
3	Total Adjusted Debt	\$ 3,336,380,865	49.4%
4	Common Equity	<u>\$ 3,412,886,691</u>	<u>50.6%</u>
5	Total	\$ 6,749,267,556	100.0%

Source:

¹S&P Capital IQ.

Oklahoma Gas and Electric Company

Accuracy of Interest Rate Forecasts (Long-Term Treasury Bond Yields - Projected Vs. Actual)

Line	Date	Publication Data			Actual Yield in Projected Quarter (4)	Projected Yield Higher (Lower) Than Actual Yield* (5)
		Prior Quarter Actual Yield (1)	Projected Yield (2)	Projected Quarter (3)		
1	Dec-00	5.8%	5.8%	1Q, 02	5.6%	0.2%
2	Mar-01	5.7%	5.6%	2Q, 02	5.8%	-0.2%
3	Jun-01	5.4%	5.8%	3Q, 02	5.2%	0.6%
4	Sep-01	5.7%	5.9%	4Q, 02	5.1%	0.8%
5	Dec-01	5.5%	5.7%	1Q, 03	5.0%	0.7%
6	Mar-02	5.3%	5.9%	2Q, 03	4.7%	1.2%
7	Jun-02	5.6%	6.2%	3Q, 03	5.2%	1.0%
8	Sep-02	5.8%	5.9%	4Q, 03	5.2%	0.7%
9	Dec-02	5.2%	5.7%	1Q, 04	4.9%	0.8%
10	Mar-03	5.1%	5.7%	2Q, 04	5.4%	0.3%
11	Jun-03	5.0%	5.4%	3Q, 04	5.1%	0.3%
12	Sep-03	4.7%	5.8%	4Q, 04	4.9%	0.9%
13	Dec-03	5.2%	5.9%	1Q, 05	4.8%	1.1%
14	Mar-04	5.2%	5.9%	2Q, 05	4.6%	1.4%
15	Jun-04	4.9%	6.2%	3Q, 05	4.5%	1.7%
16	Sep-04	5.4%	6.0%	4Q, 05	4.8%	1.2%
17	Dec-04	5.1%	5.8%	1Q, 06	4.6%	1.2%
18	Mar-05	4.9%	5.6%	2Q, 06	5.1%	0.5%
19	Jun-05	4.8%	5.5%	3Q, 06	5.0%	0.5%
20	Sep-05	4.6%	5.2%	4Q, 06	4.7%	0.5%
21	Dec-05	4.5%	5.3%	1Q, 07	4.8%	0.5%
22	Mar-06	4.8%	5.1%	2Q, 07	5.0%	0.1%
23	Jun-06	4.6%	5.3%	3Q, 07	4.9%	0.4%
24	Sep-06	5.1%	5.2%	4Q, 07	4.6%	0.6%
25	Dec-06	5.0%	5.0%	1Q, 08	4.4%	0.6%
26	Mar-07	4.7%	5.1%	2Q, 08	4.6%	0.5%
27	Jun-07	4.8%	5.1%	3Q, 08	4.5%	0.7%
28	Sep-07	5.0%	5.2%	4Q, 08	3.7%	1.5%
29	Dec-07	4.9%	4.8%	1Q, 09	3.5%	1.4%
30	Mar-08	4.6%	4.8%	2Q, 09	4.0%	0.8%
31	Jun-08	4.4%	4.9%	3Q, 09	4.3%	0.6%
32	Sep-08	4.6%	5.1%	4Q, 09	4.3%	0.8%
33	Dec-08	4.5%	4.6%	1Q, 10	4.6%	0.0%
34	Mar-09	3.7%	4.1%	2Q, 10	4.4%	-0.3%
35	Jun-09	3.5%	4.6%	3Q, 10	3.9%	0.8%
36	Sep-09	4.0%	5.0%	4Q, 10	4.2%	0.8%
37	Dec-09	4.3%	5.0%	1Q, 11	4.6%	0.4%
38	Mar-10	4.3%	5.2%	2Q, 11	4.3%	0.9%
39	Jun-10	4.6%	5.2%	3Q, 11	3.7%	1.5%
40	Sep-10	4.4%	4.7%	4Q, 11	3.0%	1.7%
41	Dec-10	3.9%	4.6%	1Q, 12	3.1%	1.5%
42	Mar-11	4.2%	5.1%	2Q, 12	2.9%	2.2%
43	Jun-11	4.6%	5.2%	3Q, 12	2.8%	2.5%
44	Sep-11	4.3%	4.2%	4Q, 12	2.9%	1.3%
45	Dec-11	3.7%	3.8%	1Q, 13	3.1%	0.7%
46	Mar-12	3.0%	3.8%	2Q, 13	3.2%	0.7%
47	Jun-12	3.1%	3.7%	3Q, 13	3.7%	0.0%
48	Sep-12	2.9%	3.4%	4Q, 13	3.8%	-0.4%
49	Dec-12	2.8%	3.4%	1Q, 14	3.7%	-0.3%
50	Mar-13	2.9%	3.6%	2Q, 14	3.4%	0.2%
51	Jun-13	3.1%	3.7%	3Q, 14	3.3%	0.4%
52	Sep-13	3.2%	4.2%	4Q, 14	3.0%	1.2%
53	Dec-13	3.7%	4.2%	1Q, 15	2.6%	1.7%
54	Mar-14	3.8%	4.4%	2Q, 15	2.9%	1.5%
55	Jun-14	3.7%	4.3%	3Q, 15	2.8%	1.5%
56	Sep-14	3.4%	4.3%	4Q, 15	3.0%	1.3%
57	Dec-14	3.3%	4.0%	1Q, 16	2.7%	1.3%
58	Mar-15	3.0%	3.7%	2Q, 16	2.6%	1.1%
59	Jun-15	2.6%	3.7%	3Q, 16	2.3%	1.4%
60	Sep-15	2.9%	3.8%	4Q, 16	2.8%	1.0%
61	Dec-15	2.8%	3.7%	1Q, 17	3.0%	0.7%
62	Mar-16	3.0%	3.5%	2Q, 17	2.9%	0.6%
63	Jun-16	2.7%	3.4%	3Q, 17	2.8%	0.6%
64	Sep-16	2.6%	3.1%	4Q, 17	2.8%	0.3%
65	Oct-16	2.3%	3.1%	1Q, 18		
66	Nov-16	2.3%	3.1%	1Q, 18		
67	Dec-16	2.3%	3.4%	1Q, 18		
68	Jan-17	2.8%	3.7%	2Q, 18		
69	Feb-17	2.8%	3.7%	2Q, 18		
70	Mar-17	2.8%	3.7%	2Q, 18		
71	Apr-17	3.1%	3.8%	3Q, 18		
72	May-17	3.0%	3.7%	3Q, 18		
73	Jun-17	3.0%	3.7%	3Q, 18		
74	Jul-17	2.9%	3.7%	4Q, 18		
75	Aug-17	2.9%	3.7%	4Q, 18		
76	Sep-17	2.9%	3.6%	4Q, 18		
77	Oct-17	2.8%	3.6%	1Q, 19		
78	Nov-17	2.8%	3.6%	1Q, 19		
79	Dec-17	2.8%	3.6%	1Q, 19		
80	Jan-18	2.8%	3.6%	2Q, 19		
81	Feb-18	2.8%	3.6%	2Q, 19		
82	Mar-18	2.8%	3.7%	2Q, 19		
83	Apr-18	3.0%	3.8%	3Q, 19		

Source:
Blue Chip Financial Forecasts, Various Dates.
* Col. 2 - Col. 4.

BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

IN THE MATTER OF THE
APPLICATION OF OKLAHOMA
GAS AND ELECTRIC COMPANY
FOR AN ORDER OF THE
COMMISSION AUTHORIZING
APPLICANT TO MODIFY ITS
RATES, CHARGES, AND TARIFFS
FOR RETAIL ELECTRIC SERVICE
IN OKLAHOMA

CAUSE NO. PUD 201700496

STATE OF MISSOURI)
COUNTY OF ST. LOUIS) SS

Affidavit of Christopher C. Walters

Christopher C. Walters, being first duly sworn, on his oath states:

1. My name is Christopher C. Walters. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by Federal Executive Agencies in this proceeding on their behalf.

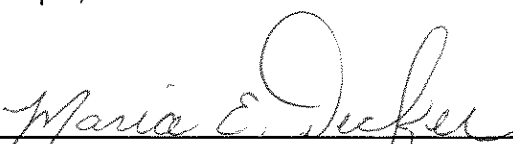
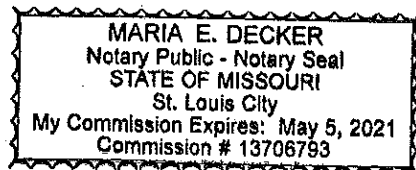
2. Attached hereto and made a part hereof for all purposes are my responsive testimony and exhibits which were prepared in written form for introduction into evidence in the Corporation Commission of Oklahoma, Cause No. PUD 201700496.

3. I hereby swear and affirm that the testimony and exhibits are true and correct and that they show the matters and things that they purport to show.



Christopher C. Walters

Subscribed and sworn to before me this 30th day of April, 2018.


Notary Public