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July 20, 2020

**VIA ELECTRONIC FILING**

Ms. Kimberly A. Campbell  
Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4300

**RE: Duke Energy Progress, LLC and Duke Energy Carolinas, LLC's Supplemental  
Rebuttal Testimony and Exhibits of Dylan W. D'Ascendis  
Docket No. E-7, Sub 1219  
Docket No. E-7, Sub 1214**

Dear Ms. Campbell:

Enclosed for filing is Duke Energy Progress, LLC's and Duke Energy Carolinas, LLC's Supplemental Rebuttal Testimony and Exhibits of Dylan W. D'Ascendis.

Please do not hesitate to contact me should have you have any questions. Thank you for your assistance in this matter.

Sincerely,

/s/ Kiran H. Mehta

Kiran H. Mehta

Enclosures

cc: Parties of Record

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**

**DOCKET NO. E-2, SUB 1219**

**DOCKET NO. E-7, SUB 1214**

In the Matters of:

Application of Duke Energy Progress, LLC  
For Adjustment of Rates and Charges  
Applicable to Electric Service in North  
Carolina

and

Application of Duke Energy Carolinas, LLC  
For Adjustment of Rates and Charges  
Applicable to Electric Service in North  
Carolina

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**SUPPLEMENTAL REBUTTAL  
TESTIMONY OF  
DYLAN W. D'ASCENDIS**

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**FOR DUKE ENERGY  
PROGRESS, LLC AND DUKE  
ENERGY CAROLINAS, LLC**

1 **I. INTRODUCTION AND PURPOSE**

2 **Q. PLEASE STATE YOUR NAME, AFFILIATION, AND BUSINESS**  
3 **ADDRESS.**

4 A. My name is Dylan W. D’Ascendis. I am a Director at ScottMadden, Inc. My  
5 business address is 3000 Atrium Way, Suite 241, Mount Laurel, New Jersey  
6 08054.

7 **Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?**

8 A. I am submitting this supplemental rebuttal testimony (“Supplemental Rebuttal  
9 Testimony”) before the North Carolina Utilities Commission (“Commission”) on  
10 behalf of Duke Energy Progress, LLC (“DE Progress”) and Duke Energy  
11 Carolinas, LLC (“DE Carolinas”) (collectively, “the Companies”).

12 **Q. ARE YOU THE SAME DYLAN W. D’ASCENDIS THAT SUBMITTED**  
13 **DIRECT AND REBUTTAL TESTIMONIES IN THESE**  
14 **PROCEEDINGS?**

15 A. Yes, I am.

16 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL REBUTTAL**  
17 **TESTIMONY?**

18 A. The purpose of my Supplemental Rebuttal Testimony is two-fold. First, I  
19 update my cost of common equity (“ROE”) models and second, I respond to  
20 the Supplemental Direct Testimony of Mr. Richard A. Baudino, witness for the  
21 North Carolina Attorney General’s Office (“AG”).

## II. UPDATED ROE ANALYSES

**Q. PLEASE SUMMARIZE YOUR UPDATED ROE ANALYSES.**

**A.** My updated analytical results are provided in Table 1. The results are based on market data as of June 30, 2020.

**Table 1: Summary of Updated Analytical Results<sup>1</sup>**

<b>Discounted Cash Flow</b>	<b>Mean Low</b>	<b>Mean</b>	<b>Mean High</b>
30-Day Constant Growth DCF	8.14%	8.92%	9.67%
90-Day Constant Growth DCF	8.04%	8.82%	9.57%
180-Day Constant Growth DCF	7.76%	8.54%	9.29%
<b>CAPM Results</b>		<b>Bloomberg Derived MRP</b>	<b>Value Line Derived MRP</b>
<i>Average Bloomberg Beta Coefficient</i>			
Current 30-Year Treasury (1.47%)		13.21%	13.78%
Near-Term Projected 30-Year Treasury (1.72%)		13.45%	14.02%
Long-Term Projected 30-Year Treasury (3.40%)		15.14%	15.70%
<i>Average Value Line Beta Coefficient</i>			
Current 30-Year Treasury (1.47%)		10.19%	10.60%
Near-Term Projected 30-Year Treasury (1.72%)		10.43%	10.85%
Long-Term Projected 30-Year Treasury (3.40%)		12.11%	12.53%
<b>ECAPM Results</b>		<b>Bloomberg Derived MRP</b>	<b>Value Line Derived MRP</b>
<i>Average Bloomberg Beta Coefficient</i>			
Current 30-Year Treasury (1.47%)		13.21%	13.77%
Near-Term Projected 30-Year Treasury (1.72%)		13.45%	14.02%
Long-Term Projected 30-Year Treasury (3.40%)		15.14%	15.70%
<i>Average Value Line Beta Coefficient</i>			
Current 30-Year Treasury (1.47%)		10.94%	11.40%
Near-Term Projected 30-Year Treasury (1.72%)		11.18%	11.64%
Long-Term Projected 30-Year Treasury (3.40%)		12.87%	13.32%
<b>Bond Yield Risk Premium</b>			
	<b>Current T-Bond</b>	<b>Near-Term Proj.</b>	<b>Long-Term Proj.</b>
Bond Yield Risk Premium	10.25%	10.08%	9.96%
	<b>Median</b>		<b>Average</b>

<sup>1</sup> Updated model results are contained in Supplemental Rebuttal Exhibits DWD-1 through DWD-6.

Expected Earnings	10.55%	10.18%
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1 **Q. WHAT ARE YOUR SPECIFIC OBSERVATIONS REGARDING THE**  
2 **COST OF CAPITAL MODEL RESULTS SINCE YOUR REBUTTAL**  
3 **TESTIMONY IN THE DE PROGRESS PROCEEDING (SPOT DATE AS**  
4 **OF APRIL 17, 2020)?**

5 A. Aside from the updated Beta coefficients provided by Value Line Investment  
6 Survey (“Value Line”), which increased from 0.548<sup>2</sup> to 0.743, there has been  
7 little movement in the other inputs to my models. This leads me to conclude  
8 that market conditions are generally unchanged from my analysis of market  
9 conditions in my most recent Rebuttal Testimony;<sup>3</sup> however, the substantial  
10 increase in Beta coefficients demonstrates greater risk for utility equities (and  
11 therefore a higher ROE) relative to the market. On balance, I maintain my  
12 recommended range of ROEs from 10.00 percent to 11.00 percent and a point  
13 estimate of 10.50 percent. In my opinion, an authorized ROE of 10.50 percent  
14 is a reasonable, but conservative measure of the Companies’ required return,  
15 especially in view of the highly volatile current market conditions.

16 **Q. HAVE YOU UPDATED YOUR PROXY GROUP IN YOUR ANALYSIS?**

17 A. No, I have not. My Proxy Group is unchanged from my Proxy Group used in

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<sup>2</sup> Docket No. E-2, Sub 1219, Rebuttal Exhibit DWD-3.

<sup>3</sup> Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D’Ascendis, at 11-30.

1 my Rebuttal Testimony.<sup>4</sup>

2 **Q. HAVE YOU APPLIED YOUR COST OF COMMON EQUITY MODELS**  
3 **IN THE SAME MANNER YOU APPLIED THEM IN YOUR DIRECT**  
4 **AND REBUTTAL TESTIMONIES?**

5 A. Yes, I have.

6 **III. RESPONSE TO AG WITNESS MR. BAUDINO**

7 **Q. PLEASE BRIEFLY SUMMARIZE MR. BAUDINO’S POSITIONS AND**  
8 **CONCLUSIONS REGARDING THE RECENT CAPITAL MARKET**  
9 **DISLOCATION, AND ITS IMPLICATIONS FOR THE COMPANIES’**  
10 **COST OF COMMON EQUITY.**

11 A. Mr. Baudino’s Supplemental Direct Testimony provides an update of the  
12 interest rate and market data since the beginning of March 2020, “when  
13 concerns about the Covid-19 pandemic began to roil financial markets with  
14 extreme volatility”.<sup>5</sup>

15 Mr. Baudino then describes the volatility surrounding 30-year Treasury  
16 bond yields, public utility bond yields, the stock market as a whole, and the  
17 utility industry for the period between March and June 30, 2020.<sup>6</sup> Additionally,  
18 Mr. Baudino summarizes the Federal Reserve Board’s (the “Fed”) actions to

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<sup>4</sup> *Ibid.*, at 30-31. Mr. Baudino uses this same proxy group for his updated analyses.  
Supplemental Direct Testimony of Richard A. Baudino, at 8.

<sup>5</sup> Supplemental Direct Testimony of Richard A. Baudino, at 2.

<sup>6</sup> *Ibid.*, at 3-4.

1 attempt to stabilize markets through providing liquidity to individuals and  
2 companies throughout that same period.<sup>7</sup>

3 From these observations, Mr. Baudino draws the following conclusions:

- 4 • That the decreases in Treasury and utility bond yields do not support  
5 higher ROEs for the Companies;<sup>8</sup>
- 6 • That regulated electric utilities like the Companies “continue to be safe,  
7 conservative, and relatively stable investments even in present market  
8 conditions”;<sup>9</sup>
- 9 • That the increase in Beta coefficients could be a short-term  
10 phenomenon;<sup>10</sup>
- 11 • That the increase in Beta coefficients are not consistent with the  
12 decrease in bond yields;<sup>11</sup> and
- 13 • That the stability of the Companies’ credit ratings do not suggest that  
14 their required ROE has increased.<sup>12</sup>

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<sup>7</sup> *Ibid.*, at 4-7.

<sup>8</sup> *Ibid.*, at 10.

<sup>9</sup> *Ibid.*, at 7.

<sup>10</sup> *Ibid.*, at 11.

<sup>11</sup> *Ibid.*

<sup>12</sup> *Ibid.*, at 10.

1   **Q.   DO YOU HAVE ANY OBSERVATIONS REGARDING MR. BAUDINO’S**  
2       **DISCUSSION ABOUT CAPITAL MARKETS AND THE**  
3       **CONCLUSIONS HE REACHES?**

4   A.   I do. While the facts he presents (*i.e.*, the levels of interest rates, market indices,  
5       and Fed actions) echo my observations about current market conditions  
6       presented in my Rebuttal Testimony,<sup>13</sup> his conclusions from those facts are  
7       contradictory. At several points in his Supplemental Direct Testimony, Mr.  
8       Baudino discusses the shocks,<sup>14</sup> extreme volatility,<sup>15</sup> unprecedented economic  
9       contraction,<sup>16</sup> skyrocketing unemployment,<sup>17</sup> and continuing effect on  
10      economic activity<sup>18</sup> brought upon by the COVID-19 pandemic, and yet he  
11      continues to support a 9.00 percent ROE, which is below any reasonable  
12      measure of the Companies’ required return as shown on Chart 1, below.<sup>19</sup>

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<sup>13</sup>       Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D’Ascendis, at 11-30.

<sup>14</sup>       Supplemental Direct Testimony of Richard A. Baudino, at 2.

<sup>15</sup>       *Ibid.*, at 2, 7, 11.

<sup>16</sup>       *Ibid.*, at 13.

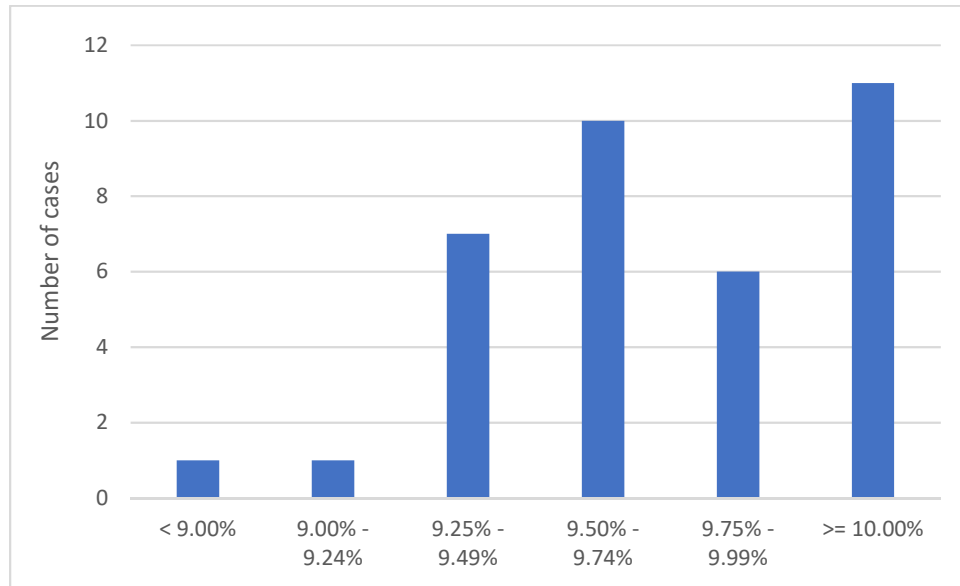
<sup>17</sup>       *Ibid.*

<sup>18</sup>       *Ibid.*, at 14.

<sup>19</sup>       Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D’Ascendis, at 4.



**Chart 1: Frequency of Vertically Integrated Electric Utility Authorized ROEs in 2019-2020<sup>20</sup>**



It must be noted that the rate cases in Chart 1 do not reflect current market conditions. As will be discussed in detail below, current market conditions are indicating a higher risk environment than those at the beginning of the year.

**Q. WHY DO YOU DISAGREE WITH MR. BAUDINO REGARDING THE RELATIONSHIP BETWEEN CURRENT INTEREST RATES AND THE COST OF CAPITAL?**

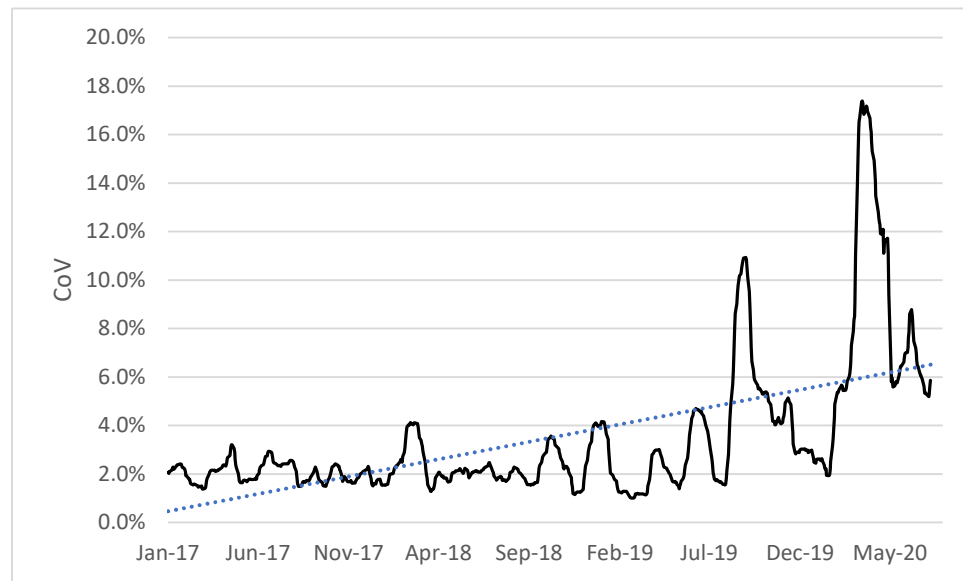
A. As discussed in my Rebuttal Testimony,<sup>21</sup> despite the Fed's actions, the 30-year Treasury bond yield has become highly volatile, as seen in its Coefficient of

<sup>20</sup> Source: Regulatory Research Associates.

<sup>21</sup> *Ibid.*, at 17-18.

1 Variation (“CoV”):<sup>22</sup>

2 **Chart 2: Coefficient of Variation in 30-Year Treasury Yields<sup>23</sup>**



3

4 In response to Mr. Baudino’s observations regarding public utility

5 bonds,<sup>24</sup> I recreated the same analysis for A-rated utility bond yields:

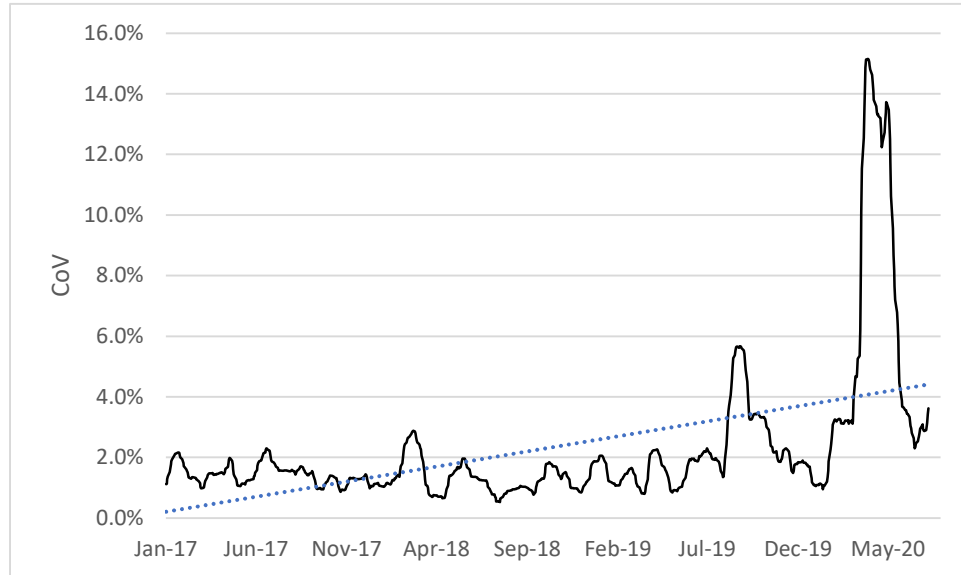
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<sup>22</sup> The coefficient of variation is used by investors and economists to determine volatility.

<sup>23</sup> Source: S&P Global Market Intelligence. Data through July 10, 2020.

<sup>24</sup> Supplemental Direct Testimony of Richard A. Baudino, at 3.

**Chart 3: Coefficient of Variation in A-Rated Public Utility Bonds<sup>25</sup>**



As discussed in my Direct Testimony,<sup>26</sup> significant and abrupt increases in volatility tend to be associated with declines in Treasury yields, as investors seek to preserve their capital in “safe haven” investments. Even though it is Mr. Baudino’s opinion that electric utility stocks are “safe haven” investments in this period of extreme market volatility, they are not.

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<sup>25</sup> *Ibid.*

<sup>26</sup> Docket No. E-2, Sub 1219, Direct Testimony of Dylan W. D’Ascendis, at 67. *see also*, Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D’Ascendis, at 35.

1   **Q.     WHY ARE ELECTRIC UTILITY STOCKS NOT “SAFE HAVEN”**  
2       **INVESTMENTS IN THE CURRENT MARKET?**

3   A.    I have studied the relative performance and annualized volatilities<sup>27</sup> of my  
4       Proxy Group and the S&P 500 to gauge whether the Proxy Group has weathered  
5       the COVID-19 pandemic to date better than the overall market. As shown on  
6       Supplemental Rebuttal Exhibit DWD-7, from January 31, 2020<sup>28</sup> to July 10,  
7       2020, returns for the Proxy Group companies ranged from negative 3.21 percent  
8       to negative 32.48 percent, averaging negative 20.64 percent while the S&P 500  
9       return over the same period was negative 1.25 percent. The annualized  
10      volatility of the Proxy Group companies ranged from 53.44 percent to 80.88  
11      percent, averaging 64.20 percent while the S&P 500’s annualized volatility over  
12      the same period was 48.84 percent. This study shows that the Proxy Group  
13      performed worse than the overall market and has been more volatile (*i.e.*,  
14      riskier) than the market as well.

15   **Q.     HAVE YOU CONDUCTED ADDITIONAL ANALYSES TO SHOW**  
16       **THAT UTILITY STOCKS SHOULD NOT BE CONSIDERED SAFE OR**

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<sup>27</sup> The annualized volatility of a stock is measured by taking the standard deviation of the price changes within the sample and multiplying by the square root of 252 (the assumed number of trading days in a year)

<sup>28</sup> I chose January 31, 2020 because on June 8, 2020, the National Bureau of Economic Research determined that a peak in monthly economic activity occurred in the U.S. economy in February 2020. The peak marks the end of the expansion that began in June 2009 and the beginning of a recession. <https://www.nber.org/cycles/june2020.html>

1           **CONSERVATIVE INVESTMENTS IN THE CURRENT ECONOMIC**  
2           **ENVIRONMENT?**

3    A.     Yes. In my Rebuttal Testimony in the DE Progress proceeding, I explained that  
4           during volatile markets, “correlations go to 1” and utility stocks lose their  
5           defensive quality.<sup>29</sup> As such, I calculated the correlation coefficients of the  
6           price changes of several groups of utilities relative to the S&P 500 and the Dow  
7           Jones Industrial Index (“DJIA”) from February 1, 2020 to July 10, 2020.  
8           Specifically, I calculated correlation coefficients for the following relationships:

- 9           •     The price changes of the S&P 500 relative to the price changes of the  
10           Proxy Group;
- 11          •     The price changes of the S&P 500 relative to the price changes of the  
12           S&P Utilities Index;
- 13          •     The price changes of the S&P 500 relative to the price changes of the  
14           S&P Electric Index;
- 15          •     The price changes of the S&P 500 relative to the price changes of the  
16           Dow Jones Utility Index (“DJU”);
- 17          •     The price changes of the DJIA relative to the price changes of the Proxy  
18           Group;
- 19          •     The price changes of the DJIA relative to the price changes of the S&P

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<sup>29</sup>     Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D’Ascendis, at 20.

- 1 Utilities Index;
- 2 • The price changes of the DJIA relative to the price changes of the S&P
- 3 Electric Index; and
- 4 • The price changes of the DJIA relative to the price changes of the DJU.
- 5 Table 2 provides the results of the calculations:

6 **Table 2: Calculation of Correlation Coefficients for Utility Groups**  
7 **Relative to Market Indices from February 2020 to July 2020<sup>30</sup>**

Group	S&P 500	DJIA
Proxy Group	83.62%	82.23%
S&P Utility Index	85.98%	84.67%
S&P Electric Index	85.95%	84.77%
DJU	85.46%	84.49%

8 As shown on Table 2, utility stocks have been trading in tandem with

9 market indices during the current market dislocation. The behavior of utility

10 stocks to move in tandem with the market during market distress is not limited

11 to the current period. During the Great Recession (December 2007 to June

12 2009), correlations between these same groups were similar, as shown on Table

13 3, below:

14 **Table 3: Calculation of Correlation Coefficients for Utility Groups**  
15 **Relative to Market Indices from December 2007 to June 2009<sup>31</sup>**

Group	S&P 500	DJIA
Proxy Group	78.71%	80.11%
S&P Utility Index	81.73%	82.27%
S&P Electric Index	79.16%	79.99%
DJU	81.57%	82.13%

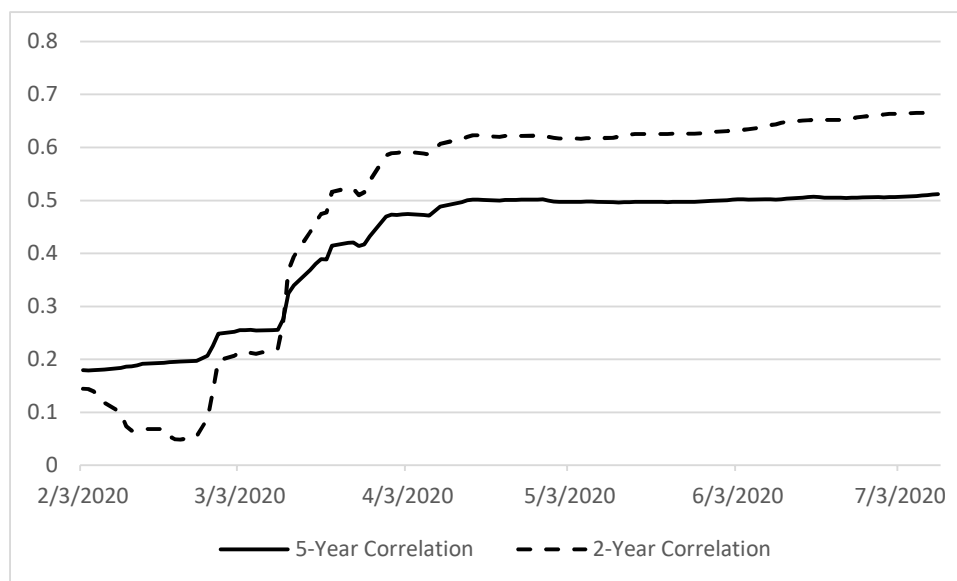
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<sup>30</sup> Source: Bloomberg Professional Services.

<sup>31</sup> *Ibid.*

1 To further the point, I have calculated two-year<sup>32</sup> and five-year<sup>33</sup>  
2 correlation coefficients between the price changes in the S&P 500 and price  
3 changes in the Proxy Group from February 2020 to July 2020. As shown on  
4 Chart 4, as the COVID-19 pandemic became apparent, the correlation  
5 coefficients increased from approximately 0.15 to approximately 0.70 (two-  
6 year horizon) and from approximately 0.20 to approximately 0.50 (five-year  
7 horizon).

8 **Chart 4: Two-Year and Five-Year Correlation Coefficients for the Proxy**  
9 **Group Relative to the S&P 500<sup>34</sup>**



10

11 The increase in volatility (*i.e.*, risk), as explained above in combination

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<sup>32</sup> Consistent with the calculation horizon of Bloomberg's Beta coefficients.

<sup>33</sup> Consistent with the calculation horizon of Value Line's Beta coefficients.

<sup>34</sup> Source: S&P Global Market Intelligence.

1 with the increased correlation between the Proxy Group and market indices  
2 ultimately leads to higher Beta coefficients, as evidenced in their increase  
3 during the course of these proceedings:

4 **Table 4: Evolution of Beta Coefficients Throughout the Proceedings<sup>35</sup>**

Source	Direct (DEC) 6/28/19	Direct (DEP) 8/16/19	Rebuttal (DEC) 1/31/20	Rebuttal (DEP) 4/17/20	Supplemental Rebuttal 6/30/20
Bloomberg	0.498	0.499	0.513	0.995	1.000
Value Line	0.580	0.572	0.561	0.548	0.743

5 In view of all of the above, it is apparent that electric utilities, as  
6 represented by the Proxy Group, are essentially just as risky as the market at  
7 this time. Mr. Baudino's conclusion that electric utilities "continue to be safe,  
8 conservative, and relatively stable investments even in present market  
9 conditions" is not justified by his own analysis. That analysis confirms the  
10 highly volatile nature of current market conditions, even as to regulated electric  
11 utilities, and these highly volatile conditions are even in his own estimation  
12 indicators of increased risk.<sup>36</sup> The upward trend in Beta coefficients depicted  
13 in Table 4 shows this, and nothing in Mr. Baudino's Supplemental Direct  
14 Testimony refutes it.

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<sup>35</sup> Supplemental Rebuttal Exhibit DWD-8.

<sup>36</sup> Supplemental Direct Testimony of Richard A. Baudino, at 10-11.



1 **Q. MR. BAUDINO CLAIMS THAT THE INCREASED BETA**  
2 **COEFFICIENTS ARE A SHORT-TERM PHENOMENON.<sup>37</sup> DO YOU**  
3 **AGREE WITH HIS ASSESSMENT?**

4 A. No. As I discussed previously, Bloomberg and Value Line Beta coefficients are  
5 calculated over time horizons of two- and five-years, respectively. That means  
6 the effect of the COVID-19 pandemic on markets reflected in the Beta  
7 coefficient calculation would last until at least February 2022 (Bloomberg) and  
8 February 2025 (Value Line).<sup>38</sup> Additionally, as discussed in my Rebuttal  
9 Testimony,<sup>39</sup> the potential range of economic financial outcomes due to  
10 COVID-19 is wide, and there is no way anyone, including Mr. Baudino, can  
11 know how it will shake out. This is corroborated by the Fed's press release on  
12 June 10, 2020, which was cited by Mr. Baudino:

13 The ongoing health crisis will weigh heavily on economic  
14 activity, employment, and inflation in the near term and  
15 poses considerable risks to the economic outlook in the  
16 medium term.<sup>40</sup>

17 Because the public health crisis has not yet abated, its total impact on  
18 markets cannot be measured.

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<sup>37</sup> Supplemental Direct Testimony of Richard A. Baudino, at 11.

<sup>38</sup> *Also see*, Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D'Ascendis, at 234-235. As noted there, Value Line data is not as current as Bloomberg data regarding Beta coefficients. Further, as Value Line data is updated on a rolling regional basis and updates reflecting COVID-19 effects for the West region have not as yet been provided, at this time Value Line's Beta coefficients lag Bloomberg's.

<sup>39</sup> Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D'Ascendis, at 28.

<sup>40</sup> Federal Reserve Board, Press Release, June 10, 2020.

1   **Q.   MR. BAUDINO REFERENCES THE DECLINE OF THE CHICAGO**  
2       **BOARD OPTIONS EXCHANGE (“CBOE”) VOLATILITY INDEX**  
3       **(“VIX”) FROM ITS MARCH 16, 2020 PEAK OF 82.69 TO 30.43**  
4       **CURRENTLY AS A REASON WHY “IT IS HIGHLY UNLIKELY THAT**  
5       **A 32% INCREASE IN EXPECTED BETAS FOR ELECTRIC**  
6       **UTILITIES SINCE EARLIER IN THE YEAR IS ACCURATE AND**  
7       **RELIABLE.”<sup>41</sup> PLEASE RESPOND.**

8   **A.**     While Mr. Baudino is correct that the VIX has declined to approximately 30.00  
9           from its peak of 82.69, a VIX of 30.00 is still 50 percent higher than its historical  
10          average level of approximately 20.00.<sup>42</sup> As I discussed in my Direct  
11          Testimony,<sup>43</sup> one means of assessing market expectations regarding the future  
12          level of volatility is to review CBOE’s “Term Structure of Volatility”, which is  
13          described by CBOE as:

14                   The implied volatility term structure observed in SPX  
15                   options markets is analogous to the term structure of interest  
16                   rates observed in fixed income markets. Similar to the  
17                   calculation of forward rates of interest, it is possible to  
18                   observe the option market’s expectation of future market  
19                   volatility through use of the SPX implied volatility term  
20                   structure.<sup>44</sup>

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<sup>41</sup> Supplemental Direct Testimony of Richard A. Baudino, at 12.

<sup>42</sup> See, Docket No. E-7, Sub 1214, Direct Testimony of Dylan W. D’Ascendis, at 39, Chart 4.

<sup>43</sup> Docket No. E-2, Sub 1219, Direct Testimony of Dylan W. D’Ascendis, at 66.

<sup>44</sup> Source: [www.cboe.com/trading-tools/strategy-planning-tools/term-structure-data](http://www.cboe.com/trading-tools/strategy-planning-tools/term-structure-data).

1 As shown in Table 5, the implied volatility is expected to remain  
2 approximately 50 percent above historical volatility until at least December  
3 2021.

4 **Table 5: CBOE Term Structure of Volatility<sup>45</sup>**

Date	Projected VIX
August 2020	28.05
September 2020	29.93
October 2020	31.18
November 2020	32.47
December 2020	33.19
January 2021	31.45
March 2021	30.70
June 2021	29.54
September 2021	28.52
December 2021	29.87

5 The current and expected increased volatility in the market, in addition  
6 to the time horizon used to calculate Beta coefficients, and the uncertainty  
7 surrounding the length and total impact of the COVID-19 pandemic would lead  
8 to the conclusion that the increase in Beta coefficients will not be short-term in  
9 nature.

10 **Q. DO YOU AGREE WITH MR. BAUDINO'S POSITION THAT THE**  
11 **INCREASE IN BETA COEFFICIENTS ARE INCONSISTENT WITH**  
12 **THE ABRUPT FALL IN INTEREST RATES?**

13 A. No, I do not. As discussed in detail previously, event-driven increases in

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<sup>45</sup> Source: <http://www.cboe.com/trading-tools/strategy-planning-tools/term-structure-data>, accessed July 10, 2020.

1 volatility lowers bond yields as investors seek to preserve capital. As the  
2 volatility of the market and utility stocks increase, so did the correlation of their  
3 price changes, leading to increasing Beta coefficients.

4 **Q. ONE OF MR. BAUDINO’S REASONS FOR NOT ADJUSTING HIS**  
5 **RECOMMENDED ROE IS BECAUSE THE COMPANIES’ CREDIT**  
6 **RATINGS WERE NOT AFFECTED DURING THE PANDEMIC. IS**  
7 **THAT VALID REASONING?**

8 A. No. As discussed in my Rebuttal Testimony,<sup>46</sup> I do not think that credit ratings  
9 are a full measure of any company’s relative equity risk. That being said, and  
10 as I also discussed in my Rebuttal Testimony,<sup>47</sup> S&P downgraded its outlook  
11 on the utility sector from “Stable” to “Negative” on April 4, 2020. Regarding  
12 liquidity and capital access, S&P observes that “the industry continues to  
13 exhibit adequate liquidity and access to the debt markets, despite uneven  
14 performance of the commercial paper market for tier 2 issuers”, but availability  
15 to equity markets “remains extraordinarily challenging.”<sup>48</sup> S&P expects the  
16 negative discretionary cash flow associated with high capital investment  
17 commitments and the “lack of access to the equity markets” to “lead to a  
18 weakening of credit measures.”<sup>49</sup>

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<sup>46</sup> Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D’Ascendis, at 113-116.

<sup>47</sup> *Ibid.*, at 24-25.

<sup>48</sup> *Ibid.*

<sup>49</sup> *Ibid.*

1           Moody's Investor Services ("Moody's") similarly observed that "[i]n a  
2           prolonged economic downturn, boards of directors are likely to review dividend  
3           plans as an option to conserve cash."<sup>50</sup> Moody's expects companies with higher  
4           payout ratios as more likely to reduce dividends, and sees the potential for  
5           average dividend payout ratios to increase to about 80.00 percent from a median  
6           of 63.00 percent in 2019.<sup>51</sup> In Moody's view, the ability to reduce dividends  
7           provides utilities "with a significant source of internal cash that could help them  
8           offset the impact of a potentially prolonged coronavirus-related economic  
9           downturn."<sup>52</sup>

10           Because utilities require adequate access to capital to provide safe and  
11           reliable service,<sup>53</sup> in times of market distress, the ability to access capital is even  
12           more critical. Utilities with strong financial profiles will have access to capital  
13           at more favorable terms and can pass those lower costs to customers.

14   **Q.   HAVE ANY UTILITY COMPANIES RECENTLY CUT THEIR**  
15   **DIVIDEND?**

16   A.   Yes. On April 1, 2020, CenterPoint Energy announced that it was reducing its  
17           dividend from \$0.29 per share to \$0.15 per share, in part citing the negative

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<sup>50</sup>       Moody's Investors Service, *Dividends a major source of cash if coronavirus downturn is prolonged*, April 6, 2020, at 1.

<sup>51</sup>       *Ibid.*, at 2-3.

<sup>52</sup>       *Ibid.*, at 1.

<sup>53</sup>       Docket No. E-2, Sub 1219, Rebuttal Testimony of Dylan W. D'Ascendis, at 130-131.

1 effect of the COVID-19 pandemic on the energy market and economy.<sup>54</sup> On  
2 July 5, 2020, Dominion Energy, following an asset sale, rebased (*i.e.*, cut) its  
3 dividend payment reflecting the sale of the assets and its payout ratio targets.<sup>55</sup>  
4 In short, even though the Companies' credit ratings were unchanged (so far)  
5 during the current public health crisis, the credit rating agencies recognize the  
6 risks presented by COVID-19, and some utilities are already reacting to those  
7 risks.

8 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING CURRENT**  
9 **CAPITAL MARKET CONDITIONS?**

10 A. Based on all of the analyses provided previously in this Supplemental Rebuttal  
11 Testimony, it has been shown that the volatility of both utility stocks and the  
12 market as a whole have increased and that the correlations of the price changes  
13 between utility stocks and market indices have likewise increased. Looking  
14 toward expected market volatility, it has been shown that the current level of  
15 market volatility, which is 50 percent higher than normal levels, is expected to  
16 persist until at least the end of 2021. Finally, credit rating agencies and  
17 individual utilities have recognized the risk presented by COVID-19 and have  
18 begun to act on responding to those risks. On balance, risk is higher now than

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<sup>54</sup> Tomi Kilgore, "CenterPoint Energy cuts dividend nearly in half and lowers capex; CFO leaving company," MarketWatch, April 2, 2020.

<sup>55</sup> Dominion Energy, Press Release, July 5, 2020.

1 it was at the beginning of the year and must be reflected in the investor-required  
2 return.

3 **Q. PLEASE BRIEFLY SUMMARIZE MR. BAUDINO’S OBSERVATIONS**  
4 **AND CONCLUSIONS REGARDING NORTH CAROLINA-SPECIFIC**  
5 **ECONOMIC CONDITIONS.**

6 A. Mr. Baudino states that the COVID-19 pandemic caused an unprecedented  
7 economic contraction and skyrocketing unemployment in North Carolina.<sup>56</sup> He  
8 reviews unemployment rates of both North Carolina and the U.S., which have  
9 risen from 3.60 percent and 3.50 percent in February 2020 to 12.90 percent and  
10 13.30 percent in May 2020, respectively, and reviews the national Gross  
11 Domestic Product (“GDP”) growth of negative 5.00 percent for the first quarter  
12 2020.<sup>57</sup> Mr. Baudino then concludes that it is more important than ever for the  
13 Commission to consider the impacts of the Companies’ requested ROE on their  
14 customers.<sup>58</sup>

15 **Q. DO YOU HAVE COMMENTS ON MR. BAUDINO’S OBSERVATIONS**  
16 **AND CONCLUSIONS REGARDING NORTH CAROLINA ECONOMIC**  
17 **CONDITIONS?**

18 A. Yes. While I agree that COVID-19 has affected the North Carolina economy,

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<sup>56</sup> Supplemental Direct Testimony of Richard A. Baudino, at 13.

<sup>57</sup> *Ibid.*, at 13-14.

<sup>58</sup> *Ibid.*, at 14.

1 it has equally affected the entire U.S. economy. As discussed in my Direct  
2 Testimony,<sup>59</sup> in its Order on Remand in Docket No. E-22, Sub 479, the  
3 Commission observed that economic conditions in North Carolina were highly  
4 correlated with national conditions, such that they were reflected in the analyses  
5 used to determine the ROE. Even though the North Carolina and the U.S.  
6 economy has contracted, those relationships still hold.

7 Regarding GDP, the U.S. contracted 5.00 percent (annualized) in the  
8 first quarter 2020, while North Carolina's GDP contracted at a similar 5.10  
9 percent in the first quarter 2020. The correlations between U.S. and North  
10 Carolina GDP growth for the period 2005 – first quarter 2020, and for the four  
11 quarters ended first quarter 2020, are 0.9769 and 0.9993, respectively.

12 Regarding unemployment rates, as of May 2020 (the most recent data  
13 for North Carolina-specific unemployment rates), the unemployment rate<sup>60</sup> for  
14 the U.S., North Carolina, the counties served by DE Progress, and the counties  
15 served by DE Carolinas were 13.00 percent, 12.70 percent, 11.89 percent, and  
16 12.97 percent, respectively.<sup>61</sup> While all the unemployment rates are  
17 extraordinarily high, it could be argued that North Carolina customers, and  
18 customers within the Companies' service area have been relatively better off

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<sup>59</sup> Docket No. E-2, Sub 1219, Direct Testimony of Dylan W. D'Ascendis, at 57-58.

<sup>60</sup> Not seasonally adjusted.

<sup>61</sup> Source: U.S. Bureau of Labor Statistics. Unemployment rate for the counties served by DE Progress and DE Carolinas is the average of the respective counties.



1 than the rest of the country. The correlations between the U.S. unemployment  
2 rate with the North Carolina unemployment rate, the counties served by DE  
3 Progress unemployment rate, and the counties served by DE Carolinas are  
4 shown in Table 6, below:

5 **Table 6: Correlations of Unemployment Rates of U.S., North Carolina,**  
6 **and Territories Served by the Companies February 2020 – May 2020**

	U.S. Unemployment Rate
North Carolina Unemployment Rate	99.29%
DE Progress Unemployment Rate	98.84%
DE Carolinas Unemployment Rate	99.41%

7  
8 On balance, the values and the correlations between national and state-  
9 wide measures of economic conditions noted by the Commission in Docket No.  
10 E-22, Sub 479 remain in place, and, as such, continue to be reflected in the  
11 models and data used to estimate the ROE.

12 **IV. CONCLUSION**

13 **Q. DO YOU MAINTAIN YOUR 10.50 PERCENT RECOMMENDED ROE**  
14 **FOR THE COMPANIES GIVEN CURRENT MARKET CONDITIONS?**

15 A. Yes, I do.

16 **Q. WHY IS IT IMPORTANT FOR THE COMMISSION TO AUTHORIZE**  
17 **THE COMPANIES THEIR FULL REQUIRED ROE IN THESE**  
18 **PROCEEDINGS?**

1    A.     Utilities, like the Companies, are the engine for economic growth for the  
2           communities they serve, and as such need to be able to access capital at  
3           reasonable costs to provide safe and reliable service. To allow the Companies  
4           an opportunity to earn an ROE below investors' required return not only  
5           disadvantages the Companies, but also the businesses and individuals the  
6           Companies serve.

7    **Q.     DOES THIS CONCLUDE YOUR SUPPLEMENTAL REBUTTAL**  
8           **TESTIMONY?**

9    A.     Yes, it does.

Constant Growth Discounted Cash Flow Model  
30 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.47	\$57.07	4.33%	4.46%	NA	7.00%	5.50%	6.25%	9.95%	10.71%	11.48%
Alliant Energy Corporation	LNT	\$1.52	\$48.56	3.13%	3.22%	5.50%	5.30%	6.50%	5.77%	8.51%	8.99%	9.73%
Ameren Corporation	AEE	\$1.98	\$72.11	2.75%	2.83%	6.80%	5.90%	6.00%	6.23%	8.73%	9.06%	9.64%
American Electric Power Company, Inc.	AEP	\$2.80	\$82.01	3.41%	3.51%	5.80%	5.88%	5.00%	5.56%	8.50%	9.07%	9.39%
Avangrid, Inc.	AGR	\$1.76	\$42.83	4.11%	4.23%	5.50%	6.40%	6.00%	5.97%	9.72%	10.20%	10.64%
Avista Corporation	AVA	\$1.62	\$37.52	4.32%	4.41%	5.20%	6.00%	1.00%	4.07%	5.34%	8.47%	10.45%
CMS Energy Corporation	CMS	\$1.63	\$58.02	2.81%	2.91%	6.90%	7.16%	7.50%	7.19%	9.81%	10.10%	10.41%
DTE Energy Company	DTE	\$4.05	\$107.49	3.77%	3.87%	5.50%	5.84%	5.00%	5.45%	8.86%	9.32%	9.72%
Evergy, Inc.	EVRG	\$2.02	\$60.72	3.33%	3.39%	5.00%	3.90%	3.00%	3.97%	6.38%	7.36%	8.41%
Hawaiian Electric Industries, Inc.	HE	\$1.32	\$37.59	3.51%	3.56%	1.70%	3.30%	3.50%	2.83%	5.24%	6.39%	7.07%
NextEra Energy, Inc.	NEE	\$5.60	\$246.01	2.28%	2.37%	7.80%	8.07%	10.00%	8.62%	10.17%	11.00%	12.39%
NorthWestern Corporation	NWE	\$2.40	\$57.60	4.17%	4.23%	3.40%	3.70%	2.50%	3.20%	6.72%	7.43%	7.94%
OGE Energy Corp.	OGE	\$1.55	\$31.40	4.94%	5.01%	3.70%	2.40%	3.00%	3.03%	7.40%	8.04%	8.73%
Otter Tail Corporation	OTTR	\$1.48	\$40.68	3.64%	3.75%	NA	9.00%	3.50%	6.25%	7.20%	10.00%	12.80%
Pinnacle West Capital Corporation	PNW	\$3.13	\$75.46	4.15%	4.25%	5.20%	4.48%	4.50%	4.73%	8.72%	8.97%	9.46%
PNM Resources, Inc.	PNM	\$1.23	\$39.47	3.12%	3.21%	6.10%	5.65%	6.00%	5.92%	8.85%	9.12%	9.31%
Portland General Electric Company	POR	\$1.54	\$44.55	3.46%	3.53%	5.30%	4.15%	4.00%	4.48%	7.53%	8.02%	8.85%
Southern Company	SO	\$2.56	\$55.56	4.61%	4.70%	4.00%	4.52%	3.00%	3.84%	7.68%	8.54%	9.23%
WEC Energy Group, Inc.	WEC	\$2.53	\$89.55	2.83%	2.91%	5.90%	5.90%	6.00%	5.93%	8.81%	8.84%	8.91%
Xcel Energy Inc.	XEL	\$1.72	\$63.77	2.70%	2.78%	5.90%	6.00%	6.00%	5.97%	8.68%	8.74%	8.78%
PROXY GROUP MEAN				3.57%	3.66%	5.29%	5.53%	4.88%	5.26%	8.14%	8.92%	9.67%
PROXY GROUP MEDIAN				3.48%	3.55%	5.50%	5.86%	5.00%	5.66%	8.60%	8.98%	9.42%

Notes:

- [1] Source: Bloomberg Professional  
[2] Source: Bloomberg Professional, equals 30-trading day average as of June 30, 2020  
[3] Equals [1] / [2]  
[4] Equals [3] x (1 + 0.5 x [8])  
[5] Source: Zacks  
[6] Source: Yahoo! Finance  
[7] Source: Value Line  
[8] Equals Average([5], [6], [7])  
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])  
[10] Equals [4] + [8]  
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model  
90 Day Average Stock Price

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.47	\$59.85	4.13%	4.26%	NA	7.00%	5.50%	6.25%	9.74%	10.51%	11.27%
Alliant Energy Corporation	LNT	\$1.52	\$49.41	3.08%	3.16%	5.50%	5.30%	6.50%	5.77%	8.46%	8.93%	9.68%
Ameren Corporation	AEE	\$1.98	\$73.85	2.68%	2.76%	6.80%	5.90%	6.00%	6.23%	8.66%	9.00%	9.57%
American Electric Power Company, Inc.	AEP	\$2.80	\$83.47	3.35%	3.45%	5.80%	5.88%	5.00%	5.56%	8.44%	9.01%	9.33%
Avangrid, Inc.	AGR	\$1.76	\$44.31	3.97%	4.09%	5.50%	6.40%	6.00%	5.97%	9.58%	10.06%	10.50%
Avista Corporation	AVA	\$1.62	\$41.52	3.90%	3.98%	5.20%	6.00%	1.00%	4.07%	4.92%	8.05%	10.02%
CMS Energy Corporation	CMS	\$1.63	\$58.87	2.77%	2.87%	6.90%	7.16%	7.50%	7.19%	9.76%	10.05%	10.37%
DTE Energy Company	DTE	\$4.05	\$103.46	3.91%	4.02%	5.50%	5.84%	5.00%	5.45%	9.01%	9.47%	9.87%
Evergy, Inc.	EVERG	\$2.02	\$59.79	3.38%	3.45%	5.00%	3.90%	3.00%	3.97%	6.43%	7.41%	8.46%
Hawaiian Electric Industries, Inc.	HE	\$1.32	\$40.34	3.27%	3.32%	1.70%	3.30%	3.50%	2.83%	5.00%	6.15%	6.83%
NextEra Energy, Inc.	NEE	\$5.60	\$239.32	2.34%	2.44%	7.80%	8.07%	10.00%	8.62%	10.23%	11.06%	12.46%
NorthWestern Corporation	NWE	\$2.40	\$60.34	3.98%	4.04%	3.40%	3.70%	2.50%	3.20%	6.53%	7.24%	7.75%
OGE Energy Corp.	OGE	\$1.55	\$31.87	4.86%	4.94%	3.70%	2.40%	3.00%	3.03%	7.32%	7.97%	8.65%
Otter Tail Corporation	OTTR	\$1.48	\$42.98	3.44%	3.55%	NA	9.00%	3.50%	6.25%	7.00%	9.80%	12.60%
Pinnacle West Capital Corporation	PNW	\$3.13	\$78.10	4.01%	4.10%	5.20%	4.48%	4.50%	4.73%	8.58%	8.83%	9.31%
PNM Resources, Inc.	PNM	\$1.23	\$40.77	3.02%	3.11%	6.10%	5.65%	6.00%	5.92%	8.75%	9.02%	9.21%
Portland General Electric Company	POR	\$1.54	\$47.53	3.24%	3.31%	5.30%	4.15%	4.00%	4.48%	7.30%	7.80%	8.63%
Southern Company	SO	\$2.56	\$56.31	4.55%	4.63%	4.00%	4.52%	3.00%	3.84%	7.61%	8.47%	9.17%
WEC Energy Group, Inc.	WEC	\$2.53	\$91.42	2.77%	2.85%	5.90%	5.90%	6.00%	5.93%	8.75%	8.78%	8.85%
Xcel Energy Inc.	XEL	\$1.72	\$62.99	2.73%	2.81%	5.90%	6.00%	6.00%	5.97%	8.71%	8.78%	8.81%
PROXY GROUP MEAN				3.47%	3.56%	5.29%	5.53%	4.88%	5.26%	8.04%	8.82%	9.57%
PROXY GROUP MEDIAN				3.37%	3.45%	5.50%	5.86%	5.00%	5.66%	8.52%	8.88%	9.32%

Notes:

- [1] Source: Bloomberg Professional  
[2] Source: Bloomberg Professional, equals 90-trading day average as of June 30, 2020  
[3] Equals [1] / [2]  
[4] Equals [3] x (1 + 0.5 x [8])  
[5] Source: Zacks  
[6] Source: Yahoo! Finance  
[7] Source: Value Line  
[8] Equals Average([5], [6], [7])  
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])  
[10] Equals [4] + [8]  
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model  
180 Day Average Stock Price

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.47	\$70.98	3.48%	3.59%	NA	7.00%	5.50%	6.25%	9.08%	9.84%	10.60%
Alliant Energy Corporation	LNT	\$1.52	\$52.11	2.92%	3.00%	5.50%	5.30%	6.50%	5.77%	8.29%	8.77%	9.51%
Ameren Corporation	AEE	\$1.98	\$75.79	2.61%	2.69%	6.80%	5.90%	6.00%	6.23%	8.59%	8.93%	9.50%
American Electric Power Company, Inc.	AEP	\$2.80	\$89.34	3.13%	3.22%	5.80%	5.88%	5.00%	5.56%	8.21%	8.78%	9.11%
Avangrid, Inc.	AGR	\$1.76	\$47.51	3.70%	3.82%	5.50%	6.40%	6.00%	5.97%	9.31%	9.78%	10.22%
Avista Corporation	AVA	\$1.62	\$44.96	3.60%	3.68%	5.20%	6.00%	1.00%	4.07%	4.62%	7.74%	9.71%
CMS Energy Corporation	CMS	\$1.63	\$61.26	2.66%	2.76%	6.90%	7.16%	7.50%	7.19%	9.65%	9.94%	10.26%
DTE Energy Company	DTE	\$4.05	\$115.97	3.49%	3.59%	5.50%	5.84%	5.00%	5.45%	8.58%	9.03%	9.43%
Evergy, Inc	EVRG	\$2.02	\$62.79	3.22%	3.28%	5.00%	3.90%	3.00%	3.97%	6.27%	7.25%	8.30%
Hawaiian Electric Industries, Inc.	HE	\$1.32	\$43.17	3.06%	3.10%	1.70%	3.30%	3.50%	2.83%	4.78%	5.93%	6.61%
NextEra Energy, Inc.	NEE	\$5.60	\$241.87	2.32%	2.42%	7.80%	8.07%	10.00%	8.62%	10.21%	11.04%	12.43%
NorthWestern Corporation	NWE	\$2.40	\$66.72	3.60%	3.65%	3.40%	3.70%	2.50%	3.20%	6.14%	6.85%	7.36%
OGE Energy Corp.	OGE	\$1.55	\$37.90	4.09%	4.15%	3.70%	2.40%	3.00%	3.03%	6.54%	7.19%	7.87%
Otter Tail Corporation	OTTR	\$1.48	\$47.68	3.10%	3.20%	NA	9.00%	3.50%	6.25%	6.66%	9.45%	12.24%
Pinnacle West Capital Corporation	PNW	\$3.13	\$84.95	3.68%	3.77%	5.20%	4.48%	4.50%	4.73%	8.25%	8.50%	8.98%
PNM Resources, Inc.	PNM	\$1.23	\$45.91	2.68%	2.76%	6.10%	5.65%	6.00%	5.92%	8.40%	8.67%	8.86%
Portland General Electric Company	POR	\$1.54	\$52.38	2.94%	3.01%	5.30%	4.15%	4.00%	4.48%	7.00%	7.49%	8.32%
Southern Company	SO	\$2.56	\$60.23	4.25%	4.33%	4.00%	4.52%	3.00%	3.84%	7.31%	8.17%	8.87%
WEC Energy Group, Inc.	WEC	\$2.53	\$92.38	2.74%	2.82%	5.90%	5.90%	6.00%	5.93%	8.72%	8.75%	8.82%
Xcel Energy Inc.	XEL	\$1.72	\$63.55	2.71%	2.79%	5.90%	6.00%	6.00%	5.97%	8.69%	8.75%	8.79%
PROXY GROUP MEAN				3.20%	3.28%	5.29%	5.53%	4.88%	5.26%	7.76%	8.54%	9.29%
PROXY GROUP MEDIAN				3.12%	3.21%	5.50%	5.86%	5.00%	5.66%	8.27%	8.75%	9.04%

Notes:

- [1] Source: Bloomberg Professional  
[2] Source: Bloomberg Professional, equals 180-trading day average as of June 30, 2020  
[3] Equals [1] / [2]  
[4] Equals [3] x (1 + 0.5 x [8])  
[5] Source: Zacks  
[6] Source: Yahoo! Finance  
[7] Source: Value Line  
[8] Equals Average([5], [6], [7])  
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])  
[10] Equals [4] + [8]  
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Ex-Ante Market Risk Premium  
Market DCF Method Based - Bloomberg

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est. Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
13.21%	1.47%	11.73%

Company	Ticker	[4] Market Capitalization (\$million)	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
Agilent Technologies Inc	A	27,286.66	0.10%	0.80%	10.30%	11.14%	0.0112%
American Airlines Group Inc	AAL	6,640.99	0.02%	0.77%	-19.74%	-19.05%	-0.0047%
Advance Auto Parts Inc	AAP	9,843.47	0.04%	0.58%	10.47%	11.07%	0.0040%
Apple Inc	AAPL	1,581,165.41	5.83%	0.88%	11.00%	11.93%	0.6958%
AbbVie Inc	ABBV	173,027.92	0.64%	4.79%	3.15%	8.01%	0.0511%
AmerisourceBergen Corp	ABC	20,496.90	0.08%	1.67%	4.17%	5.86%	0.0044%
ABIOMED Inc	ABMD	10,859.80	N/A	0.00%	N/A	N/A	N/A
Abbott Laboratories	ABT	161,725.53	0.60%	1.58%	8.10%	9.74%	0.0581%
Accenture PLC	ACN	136,810.19	0.50%	1.49%	9.83%	11.40%	0.0575%
Adobe Inc	ADBE	208,803.08	0.77%	0.00%	16.35%	16.35%	0.1259%
Analog Devices Inc	ADI	45,183.59	0.17%	1.95%	12.13%	14.19%	0.0236%
Archer-Daniels-Midland Cc	ADM	22,164.30	0.08%	3.63%	9.10%	12.89%	0.0105%
Automatic Data Processing Inc	ADP	63,989.11	0.24%	2.35%	12.30%	14.80%	0.0349%
Autodesk Inc	ADSK	52,429.66	0.19%	0.00%	31.35%	31.35%	0.0606%
Ameren Corp	AEE	17,360.43	0.06%	2.86%	7.06%	10.02%	0.0064%
American Electric Power Co Inc	AEP	39,468.24	0.15%	3.55%	6.42%	10.08%	0.0147%
AES Corp/The	AES	9,634.51	0.04%	4.00%	6.99%	11.14%	0.0040%
Aflac Inc	AFL	25,851.81	0.10%	3.14%	1.55%	4.71%	0.0045%
American International Group Inc	AIG	26,855.04	0.10%	4.13%	13.57%	17.98%	0.0178%
Apartment Investment and Management Cc	AIV	5,603.25	0.02%	4.36%	3.77%	8.21%	0.0017%
Assurant Inc	AIZ	6,161.48	N/A	2.50%	N/A	N/A	N/A
Arthur J Gallagher & Co	AJG	18,484.10	0.07%	1.84%	8.88%	10.80%	0.0074%
Akamai Technologies Inc	AKAM	17,377.97	0.06%	0.00%	11.80%	11.80%	0.0076%
Albemarle Corp	ALB	8,208.86	0.03%	1.95%	10.02%	12.06%	0.0037%
Align Technology Inc	ALGN	21,615.71	0.08%	0.00%	12.87%	12.87%	0.0103%
Alaska Air Group Inc	ALK	4,444.95	N/A	1.05%	N/A	N/A	N/A
Allstate Corp/The	ALL	30,466.12	0.11%	2.17%	7.33%	9.58%	0.0108%
Allegion plc	ALLE	9,426.75	0.03%	0.96%	6.17%	7.16%	0.0025%
Alexion Pharmaceuticals Inc	ALXN	24,785.67	0.09%	0.00%	11.37%	11.37%	0.0104%
Applied Materials Inc	AMAT	55,401.17	0.20%	1.42%	14.04%	15.56%	0.0318%
Amcor PLC	AMCR	16,075.01	0.06%	4.54%	8.90%	13.65%	0.0081%
Advanced Micro Devices Inc	AMD	61,616.33	0.23%	0.00%	20.33%	20.33%	0.0462%
AMETEK Inc	AME	20,504.35	0.08%	0.74%	9.16%	9.94%	0.0075%
Amgen Inc	AMGN	138,744.03	0.51%	2.68%	7.89%	10.68%	0.0546%
Ameriprise Financial Inc	AMP	18,355.48	0.07%	2.74%	3.90%	6.70%	0.0045%
American Tower Corp	AMT	114,612.45	0.42%	1.74%	15.64%	17.52%	0.0740%
Amazon.com Inc	AMZN	1,376,033.29	5.07%	0.00%	26.48%	26.48%	1.3440%
Arista Networks Inc	ANET	15,900.22	0.06%	0.00%	8.38%	8.38%	0.0049%
ANSYS Inc	ANSS	24,970.76	0.09%	0.00%	11.30%	11.30%	0.0104%
Anthem Inc	ANTM	66,301.49	0.24%	1.29%	12.67%	14.04%	0.0343%
Aon PLC	AON	44,506.89	0.16%	0.93%	11.05%	12.03%	0.0198%
A O Smith Corp	AOS	7,592.93	0.03%	2.05%	8.00%	10.13%	0.0028%
Apache Corp	APA	5,095.25	0.02%	2.41%	-26.07%	-23.97%	-0.0045%
Air Products and Chemicals Inc	APD	53,327.56	0.20%	2.07%	11.69%	13.88%	0.0273%
Amphenol Corp	APH	28,349.64	0.10%	1.02%	8.12%	9.18%	0.0096%
Aptiv PLC	APTIV	21,038.67	0.08%	0.22%	10.69%	10.92%	0.0085%
Alexandria Real Estate Equities Inc	ARE	20,475.11	0.08%	2.57%	4.08%	6.70%	0.0051%
Atmos Energy Corp	ATO	12,179.78	0.04%	2.31%	7.51%	9.90%	0.0044%
Activision Blizzard Inc	ATVI	58,479.85	0.22%	0.52%	12.58%	13.13%	0.0283%
AvalonBay Communities Inc	AVB	21,762.69	0.08%	4.09%	3.41%	7.57%	0.0061%
Broadcom Inc	AVGO	126,933.70	0.47%	4.12%	9.37%	13.68%	0.0641%
Avery Dennison Corp	AVY	9,508.26	0.04%	2.01%	4.50%	6.55%	0.0023%
American Water Works Co Inc	AWK	23,290.41	0.09%	1.68%	8.20%	9.95%	0.0085%
American Express Co	AXP	76,633.29	0.28%	1.83%	8.68%	10.59%	0.0299%
AutoZone Inc	AZO	26,352.18	0.10%	0.00%	7.70%	7.70%	0.0075%
Boeing Co/The	BA	103,440.84	0.38%	1.12%	118.28%	120.07%	0.4581%
Bank of America Corp	BAC	206,045.76	0.76%	3.09%	9.25%	12.49%	0.0949%
Baxter International Inc	BAX	43,670.44	0.16%	0.92%	11.00%	11.97%	0.0193%
Best Buy Co Inc	BBY	22,542.63	0.08%	2.52%	4.65%	7.23%	0.0060%
Becton Dickinson and Cc	BDX	69,335.77	0.26%	1.47%	8.14%	9.66%	0.0247%
Franklin Resources Inc	BEN	10,386.57	0.04%	5.15%	-3.02%	2.06%	0.0008%
Brown-Forman Corp	BF/B	29,415.09	0.11%	1.11%	4.93%	6.07%	0.0066%
Biogen Inc	BIIB	43,660.81	0.16%	0.00%	1.13%	1.13%	0.0018%
Bio-Rad Laboratories Inc	BIO	13,312.07	0.05%	0.00%	4.00%	4.00%	0.0020%
Bank of New York Mellon Corp/The	BK	34,222.37	0.13%	3.24%	4.43%	7.74%	0.0098%
Booking Holdings Inc	BKNG	65,175.93	0.24%	0.00%	13.20%	13.20%	0.0317%
Baker Hughes Co	BKR	15,889.60	0.06%	4.72%	17.77%	22.91%	0.0134%
BlackRock Inc	BLK	83,464.27	0.31%	2.67%	4.24%	6.97%	0.0215%
Ball Corp	BLL	22,653.96	0.08%	0.83%	6.07%	6.92%	0.0058%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Bristol-Myers Squibb Co	BMJ	133,046.16	0.49%	3.06%	9.90%	13.11%	0.0643%
Broadridge Financial Solutions Inc	BR	14,488.82	0.05%	1.71%	6.50%	8.27%	0.0044%
Berkshire Hathaway Inc	BRK/B	433,463.33	1.60%	0.00%	-3.10%	-3.10%	-0.0496%
Boston Scientific Corp	BSX	50,161.43	0.19%	0.00%	9.75%	9.75%	0.0180%
BorgWarner Inc	BWA	7,318.04	0.03%	1.99%	9.30%	11.38%	0.0031%
Boston Properties Inc	BXP	14,042.26	0.05%	4.38%	3.97%	8.44%	0.0044%
Citigroup Inc	C	106,379.98	0.39%	4.00%	-1.53%	2.44%	0.0096%
Conagra Brands Inc	CAG	17,130.47	0.06%	2.42%	7.90%	10.42%	0.0066%
Cardinal Health Inc	CAH	15,238.77	0.06%	3.74%	4.84%	8.67%	0.0049%
Carrier Global Corp	CARR	19,246.05	0.07%	0.12%	4.50%	4.62%	0.0033%
Caterpillar Inc	CAT	68,466.77	0.25%	3.34%	7.83%	11.31%	0.0286%
Chubb Ltd	CB	57,150.85	0.21%	2.43%	9.37%	11.91%	0.0251%
Choe Global Markets Inc	CBOE	10,234.71	0.04%	1.60%	6.81%	8.46%	0.0032%
CBRE Group Inc	CBRE	15,156.24	0.06%	0.00%	8.45%	8.45%	0.0047%
Crown Castle International Corp	CCI	69,743.32	0.26%	2.92%	17.63%	20.81%	0.0535%
Carnival Corp	CCL	11,751.20	0.04%	4.65%	-11.65%	-7.27%	-0.0032%
Cadence Design Systems Inc	CDNS	26,790.78	0.10%	0.00%	11.09%	11.09%	0.0110%
CDW Corp/DE	CDW	16,534.52	0.06%	1.31%	13.10%	14.49%	0.0088%
Celanese Corp	CE	10,207.88	0.04%	2.93%	3.61%	6.59%	0.0025%
Cerner Corp	CERN	20,863.10	0.08%	0.56%	11.91%	12.50%	0.0096%
CF Industries Holdings Inc	CF	6,016.26	0.02%	4.26%	11.05%	15.55%	0.0035%
Citizens Financial Group Inc	CFG	10,767.86	0.04%	6.16%	-0.15%	6.01%	0.0024%
Church & Dwight Co Inc	CHD	19,007.51	0.07%	1.25%	7.87%	9.16%	0.0064%
CH Robinson Worldwide Inc	CHRW	10,642.26	0.04%	2.59%	8.37%	11.07%	0.0043%
Charter Communications Inc	CHTR	121,450.42	0.45%	0.00%	42.98%	42.98%	0.1925%
Cigna Corp	CI	69,239.28	0.26%	0.05%	11.09%	11.15%	0.0285%
Cincinnati Financial Corp	CINF	10,296.12	N/A	4.04%	N/A	N/A	N/A
Colgate-Palmolive Co	CL	62,749.27	0.23%	2.44%	5.25%	7.75%	0.0179%
Clorox Co/The	CLX	27,626.10	0.10%	1.92%	5.12%	7.09%	0.0072%
Comerica Inc	CMA	5,297.22	0.02%	7.07%	-0.20%	6.86%	0.0013%
Comcast Corp	CMCSA	177,910.86	0.66%	2.34%	5.13%	7.54%	0.0495%
CME Group Inc	CME	58,284.94	0.21%	3.69%	8.39%	12.23%	0.0263%
Chipotle Mexican Grill Inc	CMG	29,351.10	0.11%	0.00%	15.17%	15.17%	0.0164%
Cummins Inc	CMI	25,560.37	0.09%	3.09%	3.26%	6.40%	0.0060%
CMS Energy Corp	CMS	16,721.06	0.06%	2.79%	6.87%	9.75%	0.0060%
Centene Corp	CNC	36,803.67	0.14%	0.00%	13.27%	13.27%	0.0180%
CenterPoint Energy Inc	CNP	9,383.82	0.03%	3.83%	-3.49%	0.28%	0.0001%
Capital One Financial Corp	COF	28,497.86	0.11%	2.57%	1.00%	3.58%	0.0038%
Cabot Oil & Gas Corp	COG	6,847.53	0.03%	2.33%	23.75%	26.36%	0.0067%
Cooper Cos Inc/The	COO	15,127.40	0.06%	0.02%	8.03%	8.05%	0.0045%
ConocoPhillips	COP	45,063.31	N/A	4.01%	N/A	N/A	N/A
Costco Wholesale Corp	COST	133,874.40	0.49%	0.90%	6.87%	7.80%	0.0385%
Coty Inc	COTY	3,411.04	0.01%	8.10%	-1.77%	6.26%	0.0008%
Campbell Soup Co	CPB	14,996.42	0.06%	2.85%	8.89%	11.87%	0.0066%
Copart Inc	CPRT	19,549.92	N/A	0.00%	N/A	N/A	N/A
salesforce.com Inc	CRM	168,784.33	0.62%	0.00%	19.08%	19.08%	0.1188%
Cisco Systems Inc	CSCO	196,927.89	0.73%	3.04%	5.50%	8.63%	0.0627%
CSX Corp	CSX	53,383.59	0.20%	1.51%	8.41%	9.98%	0.0197%
Cintas Corp	CTAS	27,714.81	0.10%	0.93%	9.95%	10.93%	0.0112%
CenturyLink Inc	CTL	11,007.95	0.04%	9.99%	-1.33%	8.59%	0.0035%
Cognizant Technology Solutions Corp	CTSH	30,715.76	0.11%	1.52%	10.40%	12.00%	0.0136%
Corteva Inc	CTVA	20,073.30	0.07%	1.91%	9.69%	11.69%	0.0087%
Citrix Systems Inc	CTXS	18,259.58	0.07%	0.94%	9.33%	10.32%	0.0070%
CVS Health Corp	CVS	84,921.69	0.31%	3.08%	7.36%	10.54%	0.0330%
Chevron Corp	CVX	166,590.50	0.61%	5.99%	38.90%	46.06%	0.2830%
Concho Resources Inc	CXO	10,130.13	0.04%	1.55%	1.23%	2.79%	0.0010%
Dominion Energy Inc	D	68,130.40	0.25%	4.65%	4.96%	9.73%	0.0244%
Delta Air Lines Inc	DAL	17,889.94	0.07%	1.15%	-6.43%	-5.32%	-0.0035%
DuPont de Nemours Inc	DD	38,986.65	0.14%	2.29%	1.82%	4.13%	0.0059%
Deere & Co	DE	49,165.73	0.18%	1.93%	0.41%	2.34%	0.0042%
Discover Financial Services	DFS	15,342.61	0.06%	3.55%	15.51%	19.33%	0.0109%
Dollar General Corp	DG	47,955.53	0.18%	0.76%	11.63%	12.42%	0.0220%
Quest Diagnostics Inc	DGX	15,240.08	0.06%	1.96%	5.65%	7.67%	0.0043%
DR Horton Inc	DHI	20,158.17	0.07%	1.26%	10.55%	11.87%	0.0088%
Danaher Corp	DHR	125,186.12	0.46%	0.40%	8.52%	8.94%	0.0413%
Walt Disney Co/The	DIS	201,416.80	0.74%	0.85%	4.08%	4.94%	0.0367%
Discovery Inc	DISCA	14,585.08	0.05%	0.00%	-3.45%	-3.45%	-0.0019%
DISH Network Corp	DISH	18,088.68	0.07%	0.00%	1.62%	1.62%	0.0011%
Digital Realty Trust Inc	DLR	39,334.12	0.15%	3.16%	19.70%	23.17%	0.0336%
Dollar Tree Inc	DLTR	21,986.70	0.08%	0.00%	8.86%	8.86%	0.0072%
Dover Corp	DOV	13,899.52	0.05%	2.06%	10.30%	12.46%	0.0064%
Dow Inc	DOW	30,271.63	0.11%	6.97%	2.22%	9.27%	0.0103%
Domino's Pizza Inc	DPZ	14,451.71	0.05%	0.84%	13.16%	14.05%	0.0075%
Duke Realty Corp	DRE	13,037.04	0.05%	2.66%	-0.65%	2.00%	0.0010%
Darden Restaurants Inc	DRI	9,840.95	0.04%	2.67%	10.33%	13.13%	0.0048%
DTE Energy Co	DTE	20,651.29	0.08%	3.79%	5.87%	9.77%	0.0074%
Duke Energy Corp	DUK	58,719.15	0.22%	4.85%	4.16%	9.11%	0.0197%
DaVita Inc	DVA	9,639.25	0.04%	0.76%	9.56%	10.35%	0.0037%
Devon Energy Corp	DVN	4,339.82	0.02%	3.69%	-9.15%	-5.62%	-0.0009%
DXC Technology Co	DXC	4,186.90	0.02%	1.62%	-17.84%	-16.37%	-0.0025%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
DexCom Inc	DXCM	37,436.61	0.14%	0.00%	30.99%	30.99%	0.0428%
Electronic Arts Inc	EA	38,124.73	0.14%	0.00%	8.00%	8.00%	0.0112%
eBay Inc	EBAY	36,855.50	0.14%	1.22%	12.04%	13.34%	0.0181%
Ecolab Inc	ECL	57,541.65	0.21%	0.96%	7.90%	8.90%	0.0189%
Consolidated Edison Inc	ED	24,031.96	0.09%	4.24%	3.35%	7.66%	0.0068%
Equifax Inc	EFX	20,863.68	0.08%	0.91%	7.46%	8.40%	0.0065%
Edison Internationa	EIX	20,526.00	0.08%	4.67%	4.54%	9.32%	0.0071%
Estee Lauder Cos Inc/The	EL	67,924.54	0.25%	0.77%	8.83%	9.63%	0.0241%
Eastman Chemical Co	EMN	9,463.68	0.03%	3.78%	1.92%	5.73%	0.0020%
Emerson Electric Co	EMR	37,061.39	0.14%	3.18%	6.51%	9.80%	0.0134%
EOG Resources Inc	EOG	29,486.45	0.11%	2.87%	1.45%	4.34%	0.0047%
Equinix Inc	EQIX	62,163.78	0.23%	1.51%	18.80%	20.45%	0.0469%
Equity Residential	EQR	21,888.43	0.08%	4.06%	3.41%	7.54%	0.0061%
Eversource Energy	ES	28,523.70	0.11%	2.73%	6.82%	9.64%	0.0101%
Essex Property Trust Inc	ESS	14,991.70	0.06%	3.61%	3.90%	7.58%	0.0042%
E*TRADE Financial Corp	ETFC	10,994.77	0.04%	1.15%	-11.58%	-10.49%	-0.0043%
Eaton Corp PLC	ETN	34,992.00	0.13%	3.35%	9.03%	12.53%	0.0162%
Entergy Corp	ETR	18,777.19	0.07%	3.98%	4.72%	8.80%	0.0061%
Evergy Inc	EVERG	13,438.61	0.05%	3.46%	6.90%	10.48%	0.0052%
Edwards Lifesciences Corp	EW	42,825.00	0.16%	0.00%	13.75%	13.75%	0.0217%
Exelon Corp	EXC	35,343.91	0.13%	4.21%	0.50%	4.72%	0.0062%
Expeditors International of Washington	EXPD	12,655.05	0.05%	1.41%	6.50%	7.95%	0.0037%
Expedia Group Inc	EXPE	11,588.79	0.04%	0.41%	10.00%	10.44%	0.0045%
Extra Space Storage Inc	EXR	11,923.73	0.04%	3.92%	1.50%	5.45%	0.0024%
Ford Motor Co	F	24,180.40	0.09%	3.09%	13.51%	16.81%	0.0150%
Diamondback Energy Inc	FANG	6,599.86	0.02%	3.44%	17.94%	21.68%	0.0053%
Fastenal Co	FAST	24,607.13	0.09%	2.34%	14.45%	16.96%	0.0154%
Facebook Inc	FB	647,452.82	2.39%	0.00%	22.16%	22.16%	0.5292%
Fortune Brands Home & Security Inc	FBHS	8,818.95	0.03%	1.50%	9.35%	10.93%	0.0036%
Freeport-McMoRan Inc	FCX	16,799.30	0.06%	0.43%	136.19%	136.92%	0.0848%
FedEx Corp	FDX	36,632.44	N/A	1.86%	N/A	N/A	N/A
FirstEnergy Corp	FE	21,009.21	0.08%	4.02%	0.65%	4.68%	0.0036%
F5 Networks Inc	FFIV	8,493.85	0.03%	0.00%	4.02%	4.02%	0.0013%
Fidelity National Information Services	FIS	82,845.34	0.31%	1.07%	19.58%	20.75%	0.0634%
Fiserv Inc	FISV	65,355.06	0.24%	0.00%	13.86%	13.86%	0.0334%
Fifth Third Bancorp	FITB	13,725.66	0.05%	5.59%	9.77%	15.64%	0.0079%
FLIR Systems Inc	FLIR	5,308.27	N/A	1.76%	N/A	N/A	N/A
Flowserve Corp	FLS	3,711.19	0.01%	2.81%	3.00%	5.85%	0.0008%
FleetCor Technologies Inc	FLT	21,078.78	0.08%	0.00%	13.20%	13.20%	0.0103%
FMC Corp	FMC	12,895.53	0.05%	1.77%	9.63%	11.48%	0.0055%
Fox Corp	FOX	16,197.01	0.06%	1.71%	-4.08%	-2.40%	-0.0014%
First Republic Bank/CA	FRC	18,154.77	0.07%	0.75%	9.11%	9.89%	0.0066%
Federal Realty Investment Trust	FRT	6,444.69	0.02%	4.94%	3.16%	8.18%	0.0019%
TechnipFMC PLC	FTI	3,066.40	0.01%	2.00%	9.50%	11.60%	0.0013%
Fortinet Inc	FTNT	22,189.50	0.08%	0.00%	15.10%	15.10%	0.0124%
Fortive Corp	FTV	22,791.68	0.08%	0.43%	8.67%	9.11%	0.0077%
General Dynamics Corp	GD	42,874.77	0.16%	2.90%	4.58%	7.54%	0.0119%
General Electric Co	GE	59,742.64	0.22%	0.59%	6.07%	6.67%	0.0147%
Gilead Sciences Inc	GILD	96,511.49	0.36%	3.46%	0.87%	4.34%	0.0155%
General Mills Inc	GIS	37,368.46	0.14%	3.18%	5.87%	9.14%	0.0126%
Globe Life Inc	GL	7,900.89	0.03%	0.97%	5.06%	6.05%	0.0018%
Corning Inc	GLW	19,708.55	0.07%	3.36%	4.13%	7.56%	0.0055%
General Motors Co	GM	36,206.23	0.13%	1.40%	13.21%	14.70%	0.0196%
Alphabet Inc	GOOG	966,394.01	3.56%	0.00%	14.18%	14.18%	0.5055%
Genuine Parts Co	GPC	12,544.87	0.05%	3.60%	1.82%	5.45%	0.0025%
Global Payments Inc	GPN	50,734.31	0.19%	0.40%	17.45%	17.89%	0.0335%
Gap Inc/The	GPS	4,713.20	0.02%	2.44%	4.47%	6.96%	0.0012%
Garmin Ltd	GRMN	18,624.24	0.07%	2.46%	6.90%	9.44%	0.0065%
Goldman Sachs Group Inc/The	GS	70,844.40	0.26%	2.55%	3.50%	6.09%	0.0159%
WW Grainger Inc	GWW	16,797.49	0.06%	1.93%	9.47%	11.48%	0.0071%
Halliburton Co	HAL	11,387.06	0.04%	3.70%	12.95%	16.89%	0.0071%
Hasbro Inc	HAS	10,269.00	0.04%	3.65%	14.34%	18.24%	0.0069%
Huntington Bancshares Inc/OH	HBAN	9,163.46	0.03%	6.66%	-9.27%	-2.92%	-0.0010%
Hanesbrands Inc	HBI	3,929.32	0.01%	4.75%	0.84%	5.61%	0.0008%
HCA Healthcare Inc	HCA	32,769.29	0.12%	0.31%	8.66%	8.98%	0.0109%
Home Depot Inc/The	HD	269,429.23	0.99%	2.34%	7.47%	9.89%	0.0983%
Hess Corp	HES	15,913.13	0.06%	1.97%	-23.46%	-21.72%	-0.0127%
HollyFrontier Corp	HFC	4,727.07	0.02%	4.79%	-2.81%	1.91%	0.0003%
Hartford Financial Services Group Inc/Th	HIG	13,803.79	0.05%	3.39%	9.50%	13.05%	0.0066%
Huntington Ingalls Industries Inc	HII	7,062.35	0.03%	2.44%	40.00%	42.92%	0.0112%
Hilton Worldwide Holdings Inc	HLT	20,364.86	0.08%	0.20%	1.28%	1.48%	0.0011%
Hologic Inc	HOLX	14,717.72	0.05%	0.00%	8.85%	8.85%	0.0048%
Honeywell International Inc	HON	101,480.17	0.37%	2.42%	6.81%	9.31%	0.0349%
Hewlett Packard Enterprise Co	HPE	12,500.69	0.05%	4.96%	2.00%	7.01%	0.0032%
HP Inc	HPQ	24,924.15	0.09%	4.04%	4.77%	8.91%	0.0082%
H&R Block Inc	HRB	2,748.55	0.01%	7.28%	10.00%	17.65%	0.0018%
Hormel Foods Corp	HRL	26,015.20	0.10%	1.91%	0.76%	2.68%	0.0026%
Henry Schein Inc	HSIC	8,335.53	0.03%	0.00%	-1.20%	-1.20%	-0.0004%
Host Hotels & Resorts Inc	HST	7,606.51	0.03%	2.51%	-9.60%	-7.21%	-0.0020%
Hershey Co/The	HSY	26,962.21	0.10%	2.48%	6.83%	9.40%	0.0093%



Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Humana Inc	HUM	51,262.90	0.19%	0.64%	11.56%	12.24%	0.0231%
Howmet Aerospace Inc	HWM	6,912.24	0.03%	0.13%	50.90%	51.06%	0.0130%
International Business Machines Corp	IBM	107,230.71	0.40%	5.46%	2.67%	8.21%	0.0325%
Intercontinental Exchange Inc	ICE	50,125.52	0.18%	1.30%	9.16%	10.51%	0.0194%
IDEXX Laboratories Inc	IDXX	28,041.47	0.10%	0.00%	9.41%	9.41%	0.0097%
IDEX Corp	IEX	11,914.93	0.04%	1.32%	11.33%	12.72%	0.0056%
International Flavors & Fragrances Inc	IFF	13,084.99	0.05%	2.42%	4.95%	7.43%	0.0036%
Illumina Inc	ILMN	54,441.45	0.20%	0.00%	18.06%	18.06%	0.0363%
Incyte Corp	INCY	22,600.32	0.08%	0.00%	31.72%	31.72%	0.0264%
IHS Markit Ltd	INFO	29,959.13	0.11%	0.72%	12.15%	12.91%	0.0143%
Intel Corp	INTC	253,320.22	0.93%	2.18%	5.93%	8.17%	0.0764%
Intuit Inc	INTU	77,237.86	0.28%	0.71%	13.20%	13.95%	0.0397%
International Paper Co	IP	13,838.98	0.05%	5.83%	4.40%	10.36%	0.0053%
Interpublic Group of Cos Inc/The	IPG	6,685.77	0.02%	5.62%	0.19%	5.82%	0.0014%
IPG Photonics Corp	IPGP	8,505.09	0.03%	0.00%	23.11%	23.11%	0.0072%
IQVIA Holdings Inc	IQV	27,093.94	0.10%	0.00%	11.20%	11.20%	0.0112%
Ingersoll Rand Inc	IR	12,054.84	0.04%	0.36%	10.20%	10.57%	0.0047%
Iron Mountain Inc	IRM	7,513.74	0.03%	9.52%	0.06%	9.57%	0.0027%
Intuitive Surgical Inc	ISRG	66,452.31	0.25%	0.00%	6.77%	6.77%	0.0166%
Gartner Inc	IT	10,819.62	0.04%	0.00%	10.00%	10.00%	0.0040%
Illinois Tool Works Inc	ITW	55,240.72	0.20%	2.47%	5.27%	7.80%	0.0159%
Invesco Ltd	IVZ	4,937.72	0.02%	6.99%	-10.95%	-4.35%	-0.0008%
Jacobs Engineering Group Inc	J	11,032.71	0.04%	0.88%	7.25%	8.16%	0.0033%
JB Hunt Transport Services Inc	JBHT	12,691.13	0.05%	0.93%	13.05%	14.04%	0.0066%
Johnson Controls International plc	JCI	25,395.46	0.09%	3.15%	9.10%	12.39%	0.0116%
Jack Henry & Associates Inc	JKHY	14,099.54	0.05%	0.89%	12.10%	13.05%	0.0068%
Johnson & Johnson	JNJ	370,503.03	1.37%	2.83%	5.44%	8.35%	0.1141%
Juniper Networks Inc	JNPR	7,574.71	0.03%	3.48%	7.86%	11.47%	0.0032%
JPMorgan Chase & Co	JPM	286,602.97	1.06%	3.86%	5.70%	9.67%	0.1022%
Kellogg Co	K	22,636.78	0.08%	3.50%	2.48%	6.02%	0.0050%
KeyCorp	KEY	11,880.44	0.04%	6.08%	17.60%	24.22%	0.0106%
Keysight Technologies Inc	KEYS	18,849.59	0.07%	0.00%	7.83%	7.83%	0.0054%
Kraft Heinz Co/The	KHC	38,964.26	0.14%	5.02%	1.17%	6.21%	0.0089%
Kimco Realty Corp	KIM	5,553.63	0.02%	4.41%	4.15%	8.65%	0.0018%
KLA Corp	KLAC	30,153.91	0.11%	1.59%	10.54%	12.21%	0.0136%
Kimberly-Clark Corp	KMB	48,136.34	0.18%	3.00%	4.36%	7.42%	0.0132%
Kinder Morgan Inc	KMI	34,306.76	0.13%	6.94%	4.55%	11.65%	0.0147%
CarMax Inc	KMX	14,574.74	0.05%	0.00%	9.93%	9.93%	0.0053%
Coca-Cola Co/The	KO	191,895.75	0.71%	3.67%	2.76%	6.48%	0.0459%
Kroger Co/The	KR	26,332.79	0.10%	1.97%	5.46%	7.48%	0.0073%
Kohl's Corp	KSS	3,276.19	0.01%	3.38%	1.25%	4.65%	0.0006%
Kansas City Southern	KSU	14,185.57	0.05%	1.06%	11.65%	12.77%	0.0067%
Loews Corp	L	9,650.25	N/A	0.00%	N/A	N/A	N/A
L Brands Inc	LB	4,159.10	0.02%	2.20%	11.50%	13.83%	0.0021%
Leidos Holdings Inc	LDOS	13,305.24	0.05%	1.49%	10.36%	11.92%	0.0058%
Leggett & Platt Inc	LEG	4,649.53	N/A	4.59%	N/A	N/A	N/A
Lennar Corp	LEN	18,655.99	0.07%	0.54%	9.74%	10.30%	0.0071%
Laboratory Corp of America Holdings	LH	16,145.89	0.06%	0.00%	5.18%	5.18%	0.0031%
L3Harris Technologies Inc	LHX	36,626.72	0.14%	2.00%	16.64%	18.80%	0.0254%
Linde PLC	LIN	111,397.06	0.41%	1.79%	9.50%	11.38%	0.0468%
LKQ Corp	LKQ	7,963.96	0.03%	0.00%	2.60%	2.60%	0.0008%
Eli Lilly and Co	LLY	157,030.03	0.58%	1.81%	15.63%	17.58%	0.1018%
Lockheed Martin Corp	LMT	102,336.45	0.38%	2.68%	7.48%	10.26%	0.0387%
Lincoln National Corp	LNC	7,108.73	0.03%	4.43%	9.00%	13.62%	0.0036%
Alliant Energy Corp	LNT	11,936.26	0.04%	3.16%	5.46%	8.71%	0.0038%
Lowe's Cos Inc	LOW	102,015.97	0.38%	1.78%	18.20%	20.14%	0.0758%
Lam Research Corp	LRCX	46,954.17	0.17%	1.45%	10.47%	11.99%	0.0208%
Southwest Airlines Co	LUV	20,145.20	0.07%	0.53%	-2.58%	-2.06%	-0.0015%
Las Vegas Sands Corp	LVS	34,780.25	0.13%	1.71%	9.10%	10.89%	0.0140%
Lamb Weston Holdings Inc	LW	9,336.27	0.03%	1.34%	-1.07%	0.26%	0.0001%
LyondellBasell Industries NV	LYB	21,931.17	0.08%	6.43%	5.50%	12.11%	0.0098%
Live Nation Entertainment Inc	LYV	9,542.48	N/A	0.00%	N/A	N/A	N/A
Mastercard Inc	MA	296,806.02	1.09%	0.50%	15.30%	15.84%	0.1734%
Mid-America Apartment Communities Inc	MAA	13,112.65	N/A	3.49%	N/A	N/A	N/A
Marriott International Inc/MC	MAR	27,798.46	0.10%	0.65%	-1.62%	-0.97%	-0.0010%
Masco Corp	MAS	13,243.16	0.05%	1.07%	9.98%	11.10%	0.0054%
McDonald's Corp	MCD	137,163.81	0.51%	2.74%	6.95%	9.79%	0.0495%
Microchip Technology Inc	MCHP	25,835.97	0.10%	1.40%	11.57%	13.05%	0.0124%
McKesson Corp	MCK	24,871.77	0.09%	1.13%	8.57%	9.75%	0.0089%
Moody's Corp	MCO	51,511.88	0.19%	0.80%	9.75%	10.59%	0.0201%
Mondelez International Inc	MDLZ	72,986.24	0.27%	2.31%	7.75%	10.16%	0.0273%
Medtronic PLC	MDT	122,997.11	0.45%	2.46%	7.60%	10.16%	0.0461%
MetLife Inc	MET	33,145.14	0.12%	4.99%	4.42%	9.52%	0.0116%
MGM Resorts International	MGM	8,286.06	0.03%	0.95%	18.70%	19.74%	0.0060%
Mohawk Industries Inc	MHK	7,293.42	0.03%	0.00%	9.00%	9.00%	0.0024%
McCormick & Co Inc/MD	MKC	23,885.16	0.09%	1.35%	10.03%	11.44%	0.0101%
MarketAxess Holdings Inc	MKTX	18,989.98	N/A	0.48%	N/A	N/A	N/A
Martin Marietta Materials Inc	MLM	12,837.03	0.05%	1.04%	10.08%	11.17%	0.0053%
Marsh & McLennan Cos Inc	MMC	54,782.68	0.20%	1.72%	9.83%	11.64%	0.0235%
3M Co	MMM	89,724.88	0.33%	3.79%	7.05%	10.97%	0.0363%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Monster Beverage Corp	MNST	36,501.39	0.13%	0.00%	9.60%	9.60%	0.0129%
Altria Group Inc	MO	72,940.95	0.27%	8.59%	6.05%	14.90%	0.0401%
Mosaic Co/The	MOS	4,741.55	0.02%	1.61%	38.35%	40.27%	0.0070%
Marathon Petroleum Corp	MPC	24,306.75	0.09%	6.17%	4.05%	10.35%	0.0093%
Merck & Co Inc	MRK	195,188.75	0.72%	3.11%	8.23%	11.46%	0.0825%
Marathon Oil Corp	MRO	4,836.71	0.02%	1.52%	-21.75%	-20.39%	-0.0036%
Morgan Stanley	MS	76,104.20	0.28%	2.92%	1.97%	4.91%	0.0138%
MSCI Inc	MSCI	27,905.92	0.10%	0.84%	11.45%	12.34%	0.0127%
Microsoft Corp	MSFT	1,543,305.92	5.69%	0.99%	13.84%	14.90%	0.8481%
Motorola Solutions Inc	MSI	23,831.54	0.09%	1.81%	13.70%	15.63%	0.0137%
M&T Bank Corp	MTB	13,336.51	0.05%	4.24%	0.41%	4.65%	0.0023%
Mettler-Toledo International Inc	MTD	19,258.71	0.07%	0.00%	6.02%	6.02%	0.0043%
Micron Technology Inc	MU	57,299.82	0.21%	0.00%	5.55%	5.55%	0.0117%
Maxim Integrated Products Inc	MXIM	16,160.16	0.06%	3.17%	8.03%	11.33%	0.0068%
Mylan NV	MYL	8,312.51	0.03%	0.00%	0.66%	0.66%	0.0002%
Noble Energy Inc	NBL	4,298.10	0.02%	1.89%	12.54%	14.54%	0.0023%
Norwegian Cruise Line Holdings Ltd	NCLH	4,211.78	0.02%	0.00%	-16.18%	-16.18%	-0.0025%
Nasdaq Inc	NDAQ	19,601.54	0.07%	1.62%	8.78%	10.47%	0.0076%
NextEra Energy Inc	NEE	117,551.22	0.43%	2.33%	8.45%	10.88%	0.0472%
Newmont Corp	NEM	49,551.57	0.18%	1.55%	12.75%	14.40%	0.0263%
Netflix Inc	NFLX	200,128.43	0.74%	0.00%	31.97%	31.97%	0.2359%
NiSource Inc	NI	8,704.86	0.03%	3.73%	4.66%	8.48%	0.0027%
NIKE Inc	NKE	152,471.16	0.56%	1.06%	15.23%	16.36%	0.0920%
NortonLifeLock Inc	NLOK	11,680.44	0.04%	2.52%	7.50%	10.12%	0.0044%
Nielsen Holdings PLC	NLSN	5,297.23	0.02%	1.62%	12.00%	13.71%	0.0027%
Northrop Grumman Corp	NOC	51,251.09	0.19%	1.83%	18.99%	20.99%	0.0397%
National Oilwell Varco Inc	NOV	4,755.73	N/A	1.30%	N/A	N/A	N/A
ServiceNow Inc	NOW	77,246.46	0.28%	0.00%	29.60%	29.60%	0.0843%
NRG Energy Inc	NRG	7,947.47	0.03%	3.69%	-13.96%	-10.53%	-0.0031%
Norfolk Southern Corp	NSC	44,977.37	0.17%	2.16%	5.98%	8.21%	0.0136%
NetApp Inc	NTAP	9,841.99	0.04%	4.35%	9.73%	14.29%	0.0052%
Northern Trust Corp	NTRS	16,506.85	0.06%	3.55%	-0.70%	2.84%	0.0017%
Nucor Corp	NUE	12,469.99	0.05%	3.89%	5.25%	9.24%	0.0042%
NVIDIA Corp	NVDA	233,644.65	0.86%	0.16%	18.78%	18.96%	0.1634%
NVR Inc	NVR	11,994.88	0.04%	0.00%	2.44%	2.44%	0.0011%
Newell Brands Inc	NWL	6,734.71	0.02%	5.81%	-6.27%	-0.65%	-0.0002%
News Corp	NWS	6,997.42	0.03%	1.62%	3.29%	4.93%	0.0013%
Realty Income Corp	O	20,433.26	0.08%	4.68%	4.45%	9.23%	0.0070%
Old Dominion Freight Line Inc	ODFL	20,002.83	0.07%	0.36%	8.74%	9.11%	0.0067%
ONEOK Inc	OKE	14,749.89	0.05%	11.26%	5.68%	17.26%	0.0094%
Omnicom Group Inc	OMC	11,699.85	0.04%	4.72%	0.90%	5.64%	0.0024%
Oracle Corp	ORCL	169,606.05	0.63%	1.76%	9.00%	10.84%	0.0678%
O'Reilly Automotive Inc	ORLY	31,298.73	0.12%	0.00%	11.23%	11.23%	0.0130%
Otis Worldwide Corp	OTIS	24,624.90	0.09%	1.37%	4.80%	6.20%	0.0056%
Occidental Petroleum Corp	OXY	16,470.33	0.06%	7.41%	12.20%	20.06%	0.0122%
Paycom Software Inc	PAYC	18,139.67	0.07%	0.00%	19.70%	19.70%	0.0132%
Paychex Inc	PAYX	27,172.69	0.10%	3.28%	6.55%	9.94%	0.0100%
People's United Financial Inc	PBCT	4,913.29	0.02%	6.21%	2.00%	8.28%	0.0015%
PACCAR Inc	PCAR	25,877.66	0.10%	1.76%	4.53%	6.33%	0.0060%
Healthpeak Properties Inc	PEAK	14,834.73	0.05%	5.37%	3.51%	8.97%	0.0049%
Public Service Enterprise Group Inc	PEG	24,856.54	0.09%	3.99%	4.28%	8.35%	0.0077%
PepsiCo Inc	PEP	183,510.81	0.68%	3.04%	4.17%	7.26%	0.0492%
Pfizer Inc	PFE	181,643.06	0.67%	4.61%	3.50%	8.20%	0.0549%
Principal Financial Group Inc	PFG	11,376.47	0.04%	5.44%	4.68%	10.25%	0.0043%
Procter & Gamble Co/The	PG	296,012.59	1.09%	2.52%	7.13%	9.75%	0.1064%
Progressive Corp/The	PGR	46,896.39	0.17%	2.48%	6.00%	8.55%	0.0148%
Parker-Hannifin Corp	PH	23,498.41	0.09%	1.93%	9.49%	11.51%	0.0100%
PulteGroup Inc	PHM	9,125.09	0.03%	1.40%	6.49%	7.94%	0.0027%
Packaging Corp of America	PKG	9,465.31	0.03%	3.18%	5.37%	8.63%	0.0030%
PerkinElmer Inc	PKI	10,925.87	0.04%	0.29%	7.31%	7.60%	0.0031%
Prologis Inc	PLD	68,931.86	0.25%	2.47%	5.17%	7.71%	0.0196%
Philip Morris International Inc	PM	109,092.50	0.40%	6.72%	6.09%	13.01%	0.0524%
PNC Financial Services Group Inc/The	PNC	44,636.44	0.16%	4.37%	-5.84%	-1.59%	-0.0026%
Pentair PLC	PNR	6,295.90	0.02%	2.00%	4.94%	6.99%	0.0016%
Pinnacle West Capital Corp	PNW	8,244.65	0.03%	4.31%	4.90%	9.31%	0.0028%
PPG Industries Inc	PPG	25,020.67	0.09%	1.98%	2.20%	4.21%	0.0039%
PPL Corp	PPL	19,851.99	0.07%	6.42%	-0.37%	6.04%	0.0044%
Perrigo Co PLC	PRGO	7,534.04	0.03%	1.66%	2.00%	3.68%	0.0010%
Prudential Financial Inc	PRU	24,055.50	0.09%	7.01%	7.00%	14.26%	0.0127%
Public Storage	PSA	33,540.98	0.12%	4.17%	3.68%	7.93%	0.0098%
Phillips 66	PSX	31,396.91	0.12%	5.08%	10.15%	15.49%	0.0179%
PVH Corp	PVH	3,413.43	0.01%	0.11%	2.44%	2.55%	0.0003%
Quanta Services Inc	PWR	5,418.95	N/A	0.51%	N/A	N/A	N/A
Pioneer Natural Resources Co	PXD	16,107.14	0.06%	2.20%	15.50%	17.87%	0.0106%
PayPal Holdings Inc	PYPL	204,574.05	0.75%	0.00%	15.59%	15.59%	0.1176%
QUALCOMM Inc	QCOM	102,604.68	0.38%	2.78%	17.12%	20.13%	0.0762%
Qorvo Inc	QRVO	12,647.28	0.05%	0.22%	10.19%	10.42%	0.0049%
Royal Caribbean Cruises Ltd	RCL	10,532.08	0.04%	1.55%	16.95%	18.63%	0.0072%
Everest Re Group Ltd	RE	8,245.32	0.03%	3.02%	10.00%	13.17%	0.0040%
Regency Centers Corp	REG	7,791.88	0.03%	5.20%	4.27%	9.58%	0.0028%

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		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Regeneron Pharmaceuticals Inc	REGN	63,852.01	0.24%	0.00%	9.46%	9.46%	0.0223%
Regions Financial Corp	RF	10,671.64	0.04%	5.65%	-1.84%	3.76%	0.0015%
Robert Half International Inc	RHI	6,054.44	0.02%	2.55%	0.29%	2.84%	0.0006%
Raymond James Financial Inc	RJF	9,431.81	0.03%	2.11%	3.50%	5.64%	0.0020%
Ralph Lauren Corp	RL	5,269.19	0.02%	2.58%	4.77%	7.41%	0.0014%
ResMed Inc	RMD	27,776.34	0.10%	0.83%	13.80%	14.68%	0.0150%
Rockwell Automation Inc	ROK	24,670.50	0.09%	1.92%	7.18%	9.17%	0.0083%
Rollins Inc	ROL	13,894.06	N/A	1.00%	N/A	N/A	N/A
Roper Technologies Inc	ROP	40,533.04	0.15%	0.53%	12.33%	12.89%	0.0193%
Ross Stores Inc	ROST	30,338.76	0.11%	0.53%	8.75%	9.30%	0.0104%
Republic Services Inc	RSG	26,117.52	0.10%	2.01%	5.57%	7.64%	0.0074%
Raytheon Technologies Corp	RTX	93,432.49	0.34%	2.99%	-4.34%	-1.42%	-0.0049%
SBA Communications Corp	SBAC	33,255.29	0.12%	0.62%	29.90%	30.61%	0.0375%
Starbucks Corp	SBUX	85,975.20	0.32%	2.25%	13.08%	15.47%	0.0491%
Charles Schwab Corp/The	SCHW	43,437.31	0.16%	2.14%	-5.72%	-3.64%	-0.0058%
Sealed Air Corp	SEE	5,113.52	0.02%	1.96%	2.08%	4.06%	0.0008%
Sherwin-Williams Co/The	SHW	52,468.78	0.19%	0.93%	8.92%	9.89%	0.0191%
SVB Financial Group	SIVB	11,102.65	0.04%	0.00%	10.00%	10.00%	0.0041%
J M Smucker Co/The	SJM	12,066.91	0.04%	3.40%	0.73%	4.15%	0.0018%
Schlumberger Ltd	SLB	25,521.88	0.09%	4.56%	36.00%	41.38%	0.0390%
SL Green Realty Corp	SLG	3,823.13	0.01%	7.10%	4.34%	11.60%	0.0016%
Snap-on Inc	SNA	7,528.61	0.03%	3.11%	4.06%	7.24%	0.0020%
Synopsys Inc	SNPS	29,403.80	0.11%	0.00%	14.23%	14.23%	0.0154%
Southern Co/The	SO	54,805.80	0.20%	4.90%	4.30%	9.30%	0.0188%
Simon Property Group Inc	SPG	20,907.54	0.08%	9.90%	0.60%	10.53%	0.0081%
S&P Global Inc	SPGI	79,371.73	0.29%	0.81%	7.80%	8.64%	0.0253%
Sempra Energy	SRE	34,295.09	0.13%	3.57%	7.49%	11.19%	0.0142%
STERIS PLC	STE	13,034.94	0.05%	1.04%	8.20%	9.28%	0.0045%
State Street Corp	STT	22,366.83	0.08%	3.27%	1.39%	4.69%	0.0039%
Seagate Technology PLC	STX	12,423.21	0.05%	5.32%	4.83%	10.27%	0.0047%
Constellation Brands Inc	STZ	33,604.14	0.12%	1.75%	6.94%	8.74%	0.0108%
Stanley Black & Decker Inc	SWK	21,482.23	0.08%	1.91%	11.00%	13.01%	0.0103%
Skyworks Solutions Inc	SWKS	21,331.64	0.08%	1.38%	9.48%	10.93%	0.0086%
Synchrony Financia	SYF	12,934.97	0.05%	4.00%	-4.38%	-0.46%	-0.0002%
Stryker Corp	SYK	67,639.45	0.25%	1.29%	8.10%	9.44%	0.0236%
Sysco Corp	SY	27,746.40	0.10%	3.17%	3.80%	7.03%	0.0072%
AT&T Inc	T	215,388.75	0.79%	6.90%	4.42%	11.47%	0.0911%
Molson Coors Beverage Co	TAP	7,694.05	0.03%	3.83%	1.58%	5.44%	0.0015%
TransDigm Group Inc	TDG	23,902.67	0.09%	7.35%	6.18%	13.75%	0.0121%
Teledyne Technologies Inc	TDY	11,400.55	0.04%	0.00%	10.10%	10.10%	0.0042%
TE Connectivity Ltd	TEL	26,899.09	0.10%	2.26%	9.28%	11.64%	0.0115%
Truist Financial Corp	TFC	50,599.64	0.19%	4.81%	2.10%	6.97%	0.0130%
Teleflex Inc	TFX	16,897.92	0.06%	0.37%	12.75%	13.14%	0.0082%
Target Corp	TGT	59,966.86	0.22%	2.27%	7.83%	10.19%	0.0225%
Tiffany & Co	TIF	14,797.01	0.05%	1.70%	6.80%	8.56%	0.0047%
TJX Cos Inc/The	TJX	60,564.67	0.22%	1.01%	8.60%	9.65%	0.0216%
Thermo Fisher Scientific Inc	TMO	143,106.58	0.53%	0.23%	8.30%	8.54%	0.0451%
T-Mobile US Inc	TMUS	129,229.00	0.48%	0.00%	5.00%	5.00%	0.0238%
Tapestry Inc	TPR	3,666.59	0.01%	8.04%	8.05%	16.42%	0.0022%
T Rowe Price Group Inc	TROW	28,102.29	0.10%	2.90%	1.59%	4.51%	0.0047%
Travelers Cos Inc/The	TRV	28,835.93	0.11%	2.97%	9.10%	12.21%	0.0130%
Tractor Supply Co	TSCO	15,238.89	0.06%	1.10%	12.01%	13.17%	0.0074%
Tyson Foods Inc	TSN	21,753.56	0.08%	2.85%	1.83%	4.70%	0.0038%
Trane Technologies PLC	TT	21,284.72	0.08%	2.46%	-0.26%	2.20%	0.0017%
Take-Two Interactive Software Inc	TTWO	15,902.99	0.06%	0.00%	6.33%	6.33%	0.0037%
Twitter Inc	TWTR	23,374.10	0.09%	0.00%	32.77%	32.77%	0.0282%
Texas Instruments Inc	TXN	116,529.59	0.43%	2.85%	10.70%	13.71%	0.0589%
Textron Inc	TXT	7,486.12	0.03%	0.24%	2.83%	3.08%	0.0008%
Tyler Technologies Inc	TYL	13,792.51	0.05%	0.00%	12.30%	12.30%	0.0063%
Under Armour Inc	UA	4,199.30	0.02%	0.00%	18.35%	18.35%	0.0028%
United Airlines Holdings Inc	UAL	10,052.36	0.04%	0.00%	-7.98%	-7.98%	-0.0030%
UDR Inc	UDR	11,022.84	0.04%	3.84%	6.01%	9.96%	0.0040%
Universal Health Services Inc	UHS	7,888.82	0.03%	0.43%	6.67%	7.11%	0.0021%
Ulta Beauty Inc	ULTA	11,454.93	0.04%	0.00%	8.70%	8.70%	0.0037%
UnitedHealth Group Inc	UNH	279,724.53	1.03%	1.54%	12.40%	14.03%	0.1448%
Unum Group	UNM	3,374.75	0.01%	7.08%	9.00%	16.39%	0.0020%
Union Pacific Corp	UNP	114,725.50	0.42%	2.30%	9.40%	11.81%	0.0500%
United Parcel Service Inc	UPS	95,856.79	0.35%	3.64%	6.09%	9.83%	0.0348%
United Rentals Inc	URI	10,738.26	0.04%	0.00%	-4.40%	-4.40%	-0.0017%
US Bancorp	USB	55,461.56	0.20%	4.57%	6.43%	11.15%	0.0228%
Visa Inc	V	375,425.45	1.38%	0.62%	13.52%	14.18%	0.1964%
Varian Medical Systems Inc	VAR	11,126.65	0.04%	0.00%	8.40%	8.40%	0.0034%
VF Corp	VFC	23,739.75	0.09%	3.23%	8.76%	12.13%	0.0106%
ViacomCBS Inc	VIAC	14,469.68	0.05%	4.13%	3.21%	7.40%	0.0040%
Valero Energy Corp	VLO	23,980.83	0.09%	6.67%	-0.41%	6.25%	0.0055%
Vulcan Materials Co	VMC	15,342.52	0.06%	1.14%	14.00%	15.22%	0.0086%
Vornado Realty Trust	VNO	7,302.53	0.03%	8.44%	-4.59%	3.66%	0.0010%
Verisk Analytics Inc	VRSK	27,616.50	0.10%	0.63%	9.18%	9.84%	0.0100%
VeriSign Inc	VRSN	23,897.03	0.09%	0.00%	3.20%	3.20%	0.0028%
Vertex Pharmaceuticals Inc	VRTX	75,270.62	0.28%	0.00%	24.62%	24.62%	0.0684%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Ventas Inc	VTR	13,662.00	0.05%	6.64%	-0.29%	6.34%	0.0032%
Verizon Communications Inc	VZ	228,127.69	0.84%	4.51%	2.63%	7.19%	0.0605%
Westinghouse Air Brake Technologies Corp	WAB	10,954.92	0.04%	0.87%	7.66%	8.55%	0.0035%
Waters Corp	WAT	11,168.33	0.04%	0.00%	3.89%	3.89%	0.0016%
Walgreens Boots Alliance Inc	WBA	37,185.36	0.14%	4.38%	1.47%	5.89%	0.0081%
Western Digital Corp	WDC	13,231.80	0.05%	3.40%	-1.20%	2.17%	0.0011%
WEC Energy Group Inc	WEC	27,647.84	0.10%	2.88%	6.41%	9.39%	0.0096%
Welltower Inc	WELL	21,604.55	0.08%	4.93%	-0.62%	4.29%	0.0034%
Wells Fargo & Co	WFC	104,959.94	0.39%	7.34%	9.41%	17.09%	0.0661%
Whirlpool Corp	WHR	8,051.98	0.03%	3.80%	-3.07%	0.67%	0.0002%
Willis Towers Watson PLC	WLTW	25,354.49	0.09%	1.39%	10.00%	11.46%	0.0107%
Waste Management Inc	WM	44,866.36	0.17%	2.05%	5.23%	7.33%	0.0121%
Williams Cos Inc/The	WMB	23,075.01	0.09%	8.42%	7.58%	16.31%	0.0139%
Walmart Inc	WMT	339,211.38	1.25%	1.81%	3.95%	5.79%	0.0725%
W R Berkley Corp	WRB	10,239.12	0.04%	1.82%	10.70%	12.62%	0.0048%
Westrock Co	WRK	7,326.55	0.03%	4.54%	-0.10%	4.44%	0.0012%
West Pharmaceutical Services Inc	WST	16,720.22	0.06%	0.29%	9.60%	9.91%	0.0061%
Western Union Co/The	WU	8,883.76	0.03%	4.08%	5.30%	9.49%	0.0031%
Weyerhaeuser Co	WY	16,759.79	0.06%	1.57%	54.20%	56.20%	0.0347%
Wynn Resorts Ltd	WYNN	8,035.11	0.03%	1.34%	20.00%	21.48%	0.0064%
Xcel Energy Inc	XEL	32,823.18	0.12%	2.75%	6.04%	8.87%	0.0107%
Xilinx Inc	XLNX	23,927.89	0.09%	1.53%	8.20%	9.80%	0.0086%
Exxon Mobil Corp	XOM	189,085.61	0.70%	7.80%	16.97%	25.43%	0.1774%
DENTSPLY SIRONA Inc	XRAY	9,652.68	0.04%	0.84%	-1.32%	-0.48%	-0.0002%
Xerox Holdings Corp	XRX	3,254.19	0.01%	6.57%	0.50%	7.09%	0.0009%
Xylem Inc/NY	XYL	11,687.30	0.04%	1.61%	19.97%	21.74%	0.0094%
Yum! Brands Inc	YUM	26,158.69	0.10%	2.14%	11.46%	13.73%	0.0132%
Zimmer Biomet Holdings Inc	ZBH	24,683.90	0.09%	0.83%	2.36%	3.20%	0.0029%
Zebra Technologies Corp	ZBRA	13,588.79	0.05%	0.00%	12.95%	12.95%	0.0065%
Zions Bancorp NA	ZION	5,571.31	0.02%	4.01%	-5.06%	-1.16%	-0.0002%
Zoetis Inc	ZTS	65,085.88	0.24%	0.58%	6.08%	6.68%	0.0160%
Total Market Capitalization:		27,114,041.76					13.21%

Notes:

- [1] Equals sum of Col. [9]  
[2] Source: Bloomberg Professional  
[3] Equals [1] - [2]  
[4] Source: Bloomberg Professional  
[5] Equals weight in S&P 500 based on market capitalization  
[6] Source: Bloomberg Professional  
[7] Source: Bloomberg Professional  
[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]  
[9] Equals Col. [5] x Col. [8]

Ex-Ante Market Risk Premium  
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est. Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
13.77%	1.47%	12.30%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Agilent Technologies Inc	A	26,698.82	0.10%	0.83%	10.50%	11.37%	0.0117%
American Airlines Group Inc	AAL	5,514.45	0.02%	0.00%	2.00%	2.00%	0.0004%
Advance Auto Parts Inc	AAP	9,881.44	0.04%	0.70%	11.00%	11.74%	0.0045%
Apple Inc	AAPL	1,556,895.00	6.02%	0.93%	14.00%	15.00%	0.9032%
AbbVie Inc	ABBV	140,490.90	0.54%	4.96%	10.50%	15.72%	0.0854%
AmerisourceBergen Corp	ABC	20,099.31	0.08%	1.70%	7.00%	8.76%	0.0068%
ABIOMED Inc	ABMD	10,902.01	0.04%	0.00%	10.50%	10.50%	0.0044%
Abbott Laboratories	ABT	154,420.20	0.60%	1.65%	9.50%	11.23%	0.0671%
Accenture PLC	ACN	128,737.40	0.50%	1.62%	7.50%	9.18%	0.0457%
Adobe Inc	ADBE	207,206.40	0.80%	0.00%	19.50%	19.50%	0.1563%
Analog Devices Inc	ADI	44,015.73	0.17%	2.08%	7.00%	9.15%	0.0156%
Archer-Daniels-Midland Cc	ADM	21,822.60	0.08%	3.66%	9.00%	12.82%	0.0108%
Automatic Data Processing Inc	ADP	62,252.23	0.24%	2.62%	12.00%	14.78%	0.0356%
Autodesk Inc	ADSK	51,170.05	N/A	0.00%	N/A	N/A	N/A
Ameren Corp	AEE	17,149.68	0.07%	2.97%	6.00%	9.06%	0.0060%
American Electric Power Co Inc	AEP	39,968.24	0.15%	3.62%	5.00%	8.71%	0.0135%
AES Corp/The	AES	9,202.31	0.04%	4.12%	24.00%	28.61%	0.0102%
Aflac Inc	AFL	25,265.49	0.10%	3.24%	7.00%	10.35%	0.0101%
American International Group Inc	AIG	26,097.12	0.10%	4.22%	28.50%	33.32%	0.0336%
Apartment Investment and Management Cc	AIV	5,524.08	0.02%	4.53%	-1.50%	3.00%	0.0006%
Assurant Inc	AIZ	6,011.40	0.02%	2.50%	11.50%	14.14%	0.0033%
Arthur J Gallagher & Co	AJG	17,970.29	0.07%	1.90%	13.50%	15.53%	0.0108%
Akamai Technologies Inc	AKAM	16,375.01	0.06%	0.00%	14.00%	14.00%	0.0089%
Albemarle Corp	ALB	7,795.31	0.03%	2.10%	4.00%	6.14%	0.0019%
Align Technology Inc	ALGN	20,292.26	0.08%	0.00%	19.50%	19.50%	0.0153%
Alaska Air Group Inc	ALK	4,215.70	0.02%	0.00%	2.00%	2.00%	0.0003%
Allstate Corp/The	ALL	29,279.25	0.11%	2.32%	6.00%	8.39%	0.0095%
Allegion plc	ALLE	9,021.69	0.03%	1.31%	9.00%	10.37%	0.0036%
Alexion Pharmaceuticals Inc	ALXN	24,752.14	0.10%	0.00%	19.50%	19.50%	0.0187%
Applied Materials Inc	AMAT	54,961.25	0.21%	1.47%	7.50%	9.03%	0.0192%
Amcor PLC	AMCR	16,125.24	N/A	4.82%	N/A	N/A	N/A
Advanced Micro Devices Inc	AMD	61,348.69	0.24%	0.00%	20.00%	20.00%	0.0475%
AMETEK Inc	AME	19,694.44	0.08%	0.84%	12.50%	13.39%	0.0102%
Amgen Inc	AMGN	136,715.90	0.53%	2.88%	6.50%	9.47%	0.0501%
Ameriprise Financial Inc	AMP	17,489.01	0.07%	2.91%	11.00%	14.07%	0.0095%
American Tower Corp	AMT	112,686.10	0.44%	1.88%	9.00%	10.96%	0.0478%
Amazon.com Inc	AMZN	1,427,357.00	5.52%	0.00%	33.50%	33.50%	1.8498%
Arista Networks Inc	ANET	15,830.81	0.06%	0.00%	5.50%	5.50%	0.0034%
ANSYS Inc	ANSS	24,413.41	0.09%	0.00%	9.50%	9.50%	0.0090%
Anthem Inc	ANTM	64,847.27	0.25%	1.48%	14.00%	15.58%	0.0391%
Aon PLC	AON	43,338.18	0.17%	0.96%	7.50%	8.50%	0.0142%
A O Smith Corp	AOS	7,269.03	0.03%	2.13%	6.00%	8.19%	0.0023%
Apache Corp	APA	4,932.93	0.02%	0.77%	13.50%	14.32%	0.0027%
Air Products and Chemicals Inc	APD	51,387.55	0.20%	2.30%	12.00%	14.44%	0.0287%
Amphenol Corp	APH	27,995.10	0.11%	1.06%	9.00%	10.11%	0.0109%
Aptiv PLC	APTIV	19,017.20	0.07%	0.00%	9.50%	9.50%	0.0070%
Alexandria Real Estate Equities Inc	ARE	18,148.24	0.07%	2.59%	16.50%	19.30%	0.0136%
Atmos Energy Corp	ATO	12,103.70	0.05%	2.45%	7.00%	9.54%	0.0045%
Activision Blizzard Inc	ATVI	58,222.68	0.23%	0.54%	8.00%	8.56%	0.0193%
AvalonBay Communities Inc	AVB	21,317.41	0.08%	4.29%	4.50%	8.89%	0.0073%
Broadcom Inc	AVGO	123,401.90	0.48%	4.24%	17.00%	21.60%	0.1031%
Avery Dennison Corp	AVY	9,356.12	0.04%	2.11%	11.00%	13.23%	0.0048%
American Water Works Co Inc	AWK	22,519.01	0.09%	1.77%	8.50%	10.35%	0.0090%
American Express Co	AXP	76,861.40	0.30%	1.80%	7.50%	9.37%	0.0279%
AutoZone Inc	AZO	25,687.70	0.10%	0.00%	13.00%	13.00%	0.0129%
Boeing Co/The	BA	99,708.47	0.39%	0.00%	-1.50%	-1.50%	-0.0058%
Bank of America Corp	BAC	206,563.40	0.80%	3.02%	5.00%	8.10%	0.0647%
Baxter International Inc	BAX	41,926.84	0.16%	1.19%	9.00%	10.24%	0.0166%
Best Buy Co Inc	BBY	21,541.74	0.08%	2.63%	9.00%	11.75%	0.0098%
Becton Dickinson and Co	BDX	63,272.17	0.24%	1.38%	9.00%	10.44%	0.0256%
Franklin Resources Inc	BEN	10,311.83	0.04%	5.28%	6.50%	11.95%	0.0048%
Brown-Forman Corp	BF/B	30,514.52	0.12%	1.10%	11.00%	12.16%	0.0144%
Biogen Inc	BIIB	50,266.94	0.19%	0.00%	7.00%	7.00%	0.0136%
Bio-Rad Laboratories Inc	BIO	12,819.96	0.05%	0.00%	12.00%	12.00%	0.0060%
Bank of New York Mellon Corp/The	BK	32,965.05	0.13%	3.33%	3.00%	6.38%	0.0081%
Booking Holdings Inc	BKNG	65,910.81	0.25%	0.00%	7.00%	7.00%	0.0178%
Baker Hughes Co	BKR	9,358.74	0.04%	5.03%	45.50%	51.67%	0.0187%
BlackRock Inc	BLK	83,081.41	0.32%	2.70%	7.00%	9.79%	0.0315%
Ball Corp	BLL	22,481.89	0.09%	0.87%	19.00%	19.95%	0.0174%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Bristol-Myers Squibb Co	BMJ	130,693.00	0.51%	3.12%	12.50%	15.82%	0.0800%
Broadridge Financial Solutions Inc	BR	14,049.15	0.05%	1.76%	9.00%	10.84%	0.0059%
Berkshire Hathaway Inc	BRK/B	-	N/A	0.00%	N/A	N/A	N/A
Boston Scientific Corp	BSX	47,366.68	0.18%	0.00%	13.50%	13.50%	0.0247%
BorgWarner Inc	BWA	6,878.55	0.03%	2.05%	3.50%	5.59%	0.0015%
Boston Properties Inc	BXP	13,883.12	0.05%	4.37%	4.00%	8.46%	0.0045%
Citigroup Inc	C	107,420.10	0.42%	4.02%	3.50%	7.59%	0.0315%
Conagra Brands Inc	CAG	16,458.30	0.06%	2.58%	5.00%	7.64%	0.0049%
Cardinal Health Inc	CAH	15,186.92	0.06%	3.73%	12.50%	16.46%	0.0097%
Carrier Global Corp	CARR	N/A	N/A	0.00%	N/A	N/A	N/A
Caterpillar Inc	CAT	66,150.66	0.26%	3.38%	4.00%	7.45%	0.0191%
Chubb Ltd	CB	56,949.10	0.22%	2.47%	9.50%	12.09%	0.0266%
Cboe Global Markets Inc	CBOE	10,375.20	0.04%	1.54%	12.50%	14.14%	0.0057%
CBRE Group Inc	CBRE	14,327.45	0.06%	0.00%	7.50%	7.50%	0.0042%
Crown Castle International Corp	CCI	67,595.70	0.26%	3.13%	14.00%	17.35%	0.0454%
Carnival Corp	CCL	11,920.00	0.05%	0.00%	-2.50%	-2.50%	-0.0012%
Cadence Design Systems Inc	CDNS	25,682.41	0.10%	0.00%	10.00%	10.00%	0.0099%
CDW Corp/DE	CDW	15,865.03	0.06%	1.36%	11.00%	12.43%	0.0076%
Celanese Corp	CE	9,808.28	0.04%	2.99%	7.00%	10.09%	0.0038%
Cerner Corp	CERN	20,887.38	0.08%	1.05%	9.00%	10.10%	0.0082%
CF Industries Holdings Inc	CF	6,030.45	0.02%	4.49%	26.50%	31.58%	0.0074%
Citizens Financial Group Inc	CFG	10,272.22	0.04%	6.48%	1.50%	8.03%	0.0032%
Church & Dwight Co Inc	CHD	18,738.89	0.07%	1.26%	8.00%	9.31%	0.0067%
CH Robinson Worldwide Inc	CHRW	10,570.38	0.04%	2.60%	8.00%	10.70%	0.0044%
Charter Communications Inc	CHTR	104,878.60	0.41%	0.00%	33.50%	33.50%	0.1359%
Cigna Corp	CI	67,881.25	0.26%	0.03%	11.50%	11.53%	0.0303%
Cincinnati Financial Corp	CINF	9,971.21	0.04%	3.87%	10.50%	14.57%	0.0056%
Colgate-Palmolive Co	CL	61,695.71	0.24%	2.44%	5.00%	7.50%	0.0179%
Clorox Co/The	CLX	26,699.45	0.10%	2.09%	4.50%	6.64%	0.0069%
Comerica Inc	CMA	5,206.94	0.02%	7.26%	0.50%	7.78%	0.0016%
Comcast Corp	CMCSA	175,627.30	0.68%	2.39%	9.50%	12.00%	0.0816%
CME Group Inc	CME	59,900.67	0.23%	2.03%	2.50%	4.56%	0.0106%
Chipotle Mexican Grill Inc	CMG	29,148.73	0.11%	0.00%	14.50%	14.50%	0.0164%
Cummins Inc	CMI	24,574.97	0.10%	3.15%	4.00%	7.21%	0.0069%
CMS Energy Corp	CMS	16,427.88	0.06%	2.94%	7.50%	10.55%	0.0067%
Centene Corp	CNC	35,836.07	0.14%	0.00%	13.00%	13.00%	0.0180%
CenterPoint Energy Inc	CNP	9,213.52	0.04%	3.27%	4.50%	7.84%	0.0028%
Capital One Financial Corp	COF	29,804.60	0.12%	2.44%	-0.50%	1.93%	0.0022%
Cabot Oil & Gas Corp	COG	7,142.48	0.03%	2.40%	11.50%	14.04%	0.0039%
Cooper Cos Inc/The	COO	13,816.25	0.05%	0.02%	11.00%	11.02%	0.0059%
ConocoPhillips	COP	43,958.70	0.17%	4.10%	10.50%	14.82%	0.0252%
Costco Wholesale Corp	COST	131,582.70	0.51%	0.95%	10.00%	11.00%	0.0560%
Coty Inc	COTY	3,304.22	0.01%	0.00%	10.50%	10.50%	0.0013%
Campbell Soup Co	CPB	15,781.78	0.06%	2.87%	1.50%	4.39%	0.0027%
Copart Inc	CPRT	19,083.54	0.07%	0.00%	14.00%	14.00%	0.0103%
salesforce.com Inc	CRM	166,809.40	0.65%	0.00%	31.50%	31.50%	0.2033%
Cisco Systems Inc	CSCO	188,845.00	0.73%	3.22%	7.00%	10.33%	0.0755%
CSX Corp	CSX	51,668.95	0.20%	1.54%	9.50%	11.11%	0.0222%
Cintas Corp	CTAS	27,216.59	0.11%	1.11%	14.00%	15.19%	0.0160%
CenturyLink Inc	CTL	10,691.71	0.04%	10.27%	2.50%	12.90%	0.0053%
Cognizant Technology Solutions Corp	CTSH	29,105.80	0.11%	1.64%	4.00%	5.67%	0.0064%
Corteva Inc	CTVA	19,509.98	N/A	2.15%	N/A	N/A	N/A
Citrix Systems Inc	CTXS	17,487.05	0.07%	0.99%	9.00%	10.03%	0.0068%
CVS Health Corp	CVS	82,449.90	0.32%	3.17%	6.00%	9.27%	0.0296%
Chevron Corp	CVX	163,622.00	0.63%	5.89%	10.50%	16.70%	0.1057%
Concho Resources Inc	CXO	10,151.95	0.04%	1.55%	6.00%	7.60%	0.0030%
Dominion Energy Inc	D	69,284.63	0.27%	4.59%	10.50%	15.33%	0.0411%
Delta Air Lines Inc	DAL	17,438.44	0.07%	0.00%	6.00%	6.00%	0.0040%
DuPont de Nemours Inc	DD	37,819.74	N/A	2.41%	N/A	N/A	N/A
Deere & Co	DE	47,082.15	0.18%	2.02%	5.00%	7.07%	0.0129%
Discover Financial Services	DFS	15,563.20	0.06%	3.46%	4.50%	8.04%	0.0048%
Dollar General Corp	DG	48,292.87	0.19%	0.75%	11.50%	12.29%	0.0230%
Quest Diagnostics Inc	DGX	14,009.70	0.05%	2.14%	9.00%	11.24%	0.0061%
DR Horton Inc	DHI	19,663.77	0.08%	1.29%	6.50%	7.83%	0.0060%
Danaher Corp	DHR	119,507.60	0.46%	0.42%	15.00%	15.45%	0.0714%
Walt Disney Co/The	DIS	199,596.70	0.77%	0.00%	5.50%	5.50%	0.0425%
Discovery Inc	DISCA	11,012.04	0.04%	0.00%	15.00%	15.00%	0.0064%
DISH Network Corp	DISH	18,008.58	0.07%	0.00%	-1.00%	-1.00%	-0.0007%
Digital Realty Trust Inc	DLR	29,250.32	0.11%	3.26%	8.50%	11.90%	0.0135%
Dollar Tree Inc	DLTR	21,371.72	0.08%	0.00%	8.00%	8.00%	0.0066%
Dover Corp	DOV	13,227.29	0.05%	2.13%	9.50%	11.73%	0.0060%
Dow Inc	DOW	28,481.11	N/A	7.54%	N/A	N/A	N/A
Domino's Pizza Inc	DPZ	14,658.74	0.06%	0.83%	13.00%	13.88%	0.0079%
Duke Realty Corp	DRE	12,723.71	0.05%	2.72%	-3.00%	-0.32%	-0.0002%
Darden Restaurants Inc	DRI	8,555.48	0.03%	0.00%	4.00%	4.00%	0.0013%
DTE Energy Co	DTE	20,276.27	0.08%	4.06%	5.00%	9.16%	0.0072%
Duke Energy Corp	DUK	59,145.45	0.23%	4.76%	5.00%	9.88%	0.0226%
DaVita Inc	DVA	9,400.91	0.04%	0.00%	11.50%	11.50%	0.0042%
Devon Energy Corp	DVN	4,308.75	0.02%	4.27%	2.50%	6.82%	0.0011%
DXC Technology Co	DXC	3,812.23	0.01%	5.59%	7.50%	13.30%	0.0020%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
DexCom Inc	DXCM	36,709.33	0.14%	0.00%	51.50%	51.50%	0.0731%
Electronic Arts Inc	EA	37,744.61	0.15%	0.00%	10.50%	10.50%	0.0153%
eBay Inc	EBAY	34,187.77	0.13%	1.33%	7.00%	8.38%	0.0111%
Ecolab Inc	ECL	56,877.36	0.22%	0.96%	8.50%	9.50%	0.0209%
Consolidated Edison Inc	ED	23,891.02	0.09%	4.32%	3.00%	7.38%	0.0068%
Equifax Inc	EFX	20,173.04	0.08%	0.94%	7.00%	7.97%	0.0062%
Edison Internationa	EIX	19,762.19	0.08%	4.78%	12.00%	17.07%	0.0130%
Estee Lauder Cos Inc/The	EL	67,587.38	0.26%	0.00%	11.50%	11.50%	0.0301%
Eastman Chemical Co	EMN	9,081.11	0.04%	3.95%	5.00%	9.05%	0.0032%
Emerson Electric Co	EMR	35,628.92	0.14%	3.35%	8.50%	11.99%	0.0165%
EOG Resources Inc	EOG	28,490.71	0.11%	3.11%	10.50%	13.77%	0.0152%
Equinix Inc	EQIX	59,257.84	0.23%	1.59%	16.00%	17.72%	0.0406%
Equity Residential	EQR	21,363.65	0.08%	4.19%	1.00%	5.21%	0.0043%
Eversource Energy	ES	27,726.99	0.11%	2.79%	6.50%	9.38%	0.0101%
Essex Property Trust Inc	ESS	15,053.77	0.06%	3.70%	1.00%	4.72%	0.0027%
E*TRADE Financial Corp	ETFC	10,678.05	0.04%	1.16%	5.50%	6.69%	0.0028%
Eaton Corp PLC	ETN	33,604.00	0.13%	3.48%	4.00%	7.55%	0.0098%
Entergy Corp	ETR	18,717.05	0.07%	4.04%	3.00%	7.10%	0.0051%
Evergy Inc	EVRG	13,386.67	N/A	3.57%	N/A	N/A	N/A
Edwards Lifesciences Corp	EW	41,810.06	0.16%	0.00%	13.50%	13.50%	0.0218%
Exelon Corp	EXC	35,536.66	0.14%	4.25%	5.00%	9.36%	0.0129%
Expeditors International of Washington	EXPD	12,235.13	0.05%	1.41%	5.50%	6.95%	0.0033%
Expedia Group Inc	EXPE	11,452.97	0.04%	0.00%	12.00%	12.00%	0.0053%
Extra Space Storage Inc	EXR	11,720.24	0.05%	3.98%	3.00%	7.04%	0.0032%
Ford Motor Co	F	23,241.82	0.09%	0.00%	11.00%	11.00%	0.0099%
Diamondback Energy Inc	FANG	6,612.49	0.03%	3.58%	4.50%	8.16%	0.0021%
Fastenal Co	FAST	23,680.29	0.09%	2.42%	8.00%	10.52%	0.0096%
Facebook Inc	FB	667,191.00	2.58%	0.00%	14.00%	14.00%	0.3614%
Fortune Brands Home & Security Inc	FBHS	8,180.26	0.03%	1.62%	5.00%	6.66%	0.0021%
Freeport-McMoRan Inc	FCX	16,732.31	0.06%	0.00%	17.00%	17.00%	0.0110%
FedEx Corp	FDX	35,292.13	0.14%	1.93%	3.00%	4.96%	0.0068%
FirstEnergy Corp	FE	20,467.46	0.08%	4.18%	8.50%	12.86%	0.0102%
F5 Networks Inc	FFIV	8,185.52	0.03%	0.00%	6.50%	6.50%	0.0021%
Fidelity National Information Services	FIS	81,496.79	0.32%	1.06%	28.50%	29.71%	0.0937%
Fiserv Inc	FISV	65,115.14	0.25%	0.00%	14.00%	14.00%	0.0353%
Fifth Third Bancorp	FITB	14,147.88	0.05%	5.43%	3.00%	8.51%	0.0047%
FLIR Systems Inc	FLIR	5,076.65	0.02%	1.75%	7.50%	9.32%	0.0018%
Flowserve Corp	FLS	3,348.61	0.01%	3.10%	12.50%	15.79%	0.0020%
FleetCor Technologies Inc	FLT	20,640.34	0.08%	0.00%	14.00%	14.00%	0.0112%
FMC Corp	FMC	12,508.46	0.05%	1.90%	11.00%	13.00%	0.0063%
Fox Corp	FOX	N/A	N/A	0.00%	N/A	N/A	N/A
First Republic Bank/CA	FRC	18,094.17	0.07%	0.76%	9.00%	9.79%	0.0069%
Federal Realty Investment Trust	FRT	6,229.87	0.02%	5.17%	1.50%	6.71%	0.0016%
TechnipFMC PLC	FTI	N/A	N/A	0.00%	N/A	N/A	N/A
Fortinet Inc	FTNT	21,842.06	0.08%	0.00%	21.00%	21.00%	0.0177%
Fortive Corp	FTV	22,232.17	0.09%	0.42%	8.00%	8.44%	0.0073%
General Dynamics Corp	GD	42,011.38	0.16%	3.00%	6.00%	9.09%	0.0148%
General Electric Co	GE	57,118.51	0.22%	0.61%	8.00%	8.63%	0.0191%
Gilead Sciences Inc	GILD	95,216.21	0.37%	3.58%	3.50%	7.14%	0.0263%
General Mills Inc	GIS	36,523.68	0.14%	3.30%	4.00%	7.37%	0.0104%
Globe Life Inc	GL	7,577.04	0.03%	1.05%	8.00%	9.09%	0.0027%
Corning Inc	GLW	19,589.79	0.08%	3.41%	13.50%	17.14%	0.0130%
General Motors Co	GM	36,177.60	0.14%	0.00%	3.50%	3.50%	0.0049%
Alphabet Inc	GOOG	979,427.40	3.79%	0.00%	14.50%	14.50%	0.5494%
Genuine Parts Co	GPC	12,213.56	0.05%	3.73%	6.50%	10.35%	0.0049%
Global Payments Inc	GPN	49,907.76	0.19%	0.47%	11.50%	12.00%	0.0232%
Gap Inc/The	GPS	3,886.66	0.02%	0.00%	2.50%	2.50%	0.0004%
Garmin Ltd	GRMN	18,202.01	0.07%	2.56%	7.00%	9.65%	0.0068%
Goldman Sachs Group Inc/The	GS	68,090.36	0.26%	2.53%	6.50%	9.11%	0.0240%
WW Grainger Inc	GWW	15,761.83	0.06%	1.95%	7.00%	9.02%	0.0055%
Halliburton Cc	HAL	10,365.64	0.04%	1.52%	4.50%	6.05%	0.0024%
Hasbro Inc	HAS	9,719.28	0.04%	3.83%	8.50%	12.49%	0.0047%
Huntington Bancshares Inc/OH	HBAN	9,708.32	0.04%	6.29%	4.00%	10.42%	0.0039%
Hanesbrands Inc	HBI	3,727.46	0.01%	5.60%	2.50%	8.17%	0.0012%
HCA Healthcare Inc	HCA	31,644.00	0.12%	0.00%	10.50%	10.50%	0.0129%
Home Depot Inc/The	HD	264,835.90	1.02%	2.44%	7.00%	9.53%	0.0976%
Hess Corp	HES	15,038.46	N/A	2.04%	N/A	N/A	N/A
HollyFrontier Corp	HFC	4,788.53	0.02%	4.80%	8.50%	13.50%	0.0025%
Hartford Financial Services Group Inc/Tr	HIG	13,551.38	0.05%	3.43%	11.50%	15.13%	0.0079%
Huntington Ingalls Industries Inc	HII	6,772.41	0.03%	2.46%	7.50%	10.05%	0.0026%
Hilton Worldwide Holdings Inc	HLT	20,284.83	0.08%	0.00%	14.00%	14.00%	0.0110%
Hologic Inc	HOLX	13,857.65	0.05%	0.00%	9.50%	9.50%	0.0051%
Honeywell International Inc	HON	97,100.67	0.38%	2.60%	8.00%	10.70%	0.0402%
Hewlett Packard Enterprise Co	HPE	11,886.49	0.05%	5.18%	5.00%	10.31%	0.0047%
HP Inc	HPQ	23,166.00	0.09%	4.32%	8.00%	12.49%	0.0112%
H&R Block Inc	HRB	2,860.16	0.01%	7.00%	6.00%	13.21%	0.0015%
Hormel Foods Corp	HRL	25,740.21	0.10%	2.05%	8.50%	10.64%	0.0106%
Henry Schein Inc	HSIC	8,001.89	0.03%	0.00%	5.00%	5.00%	0.0015%
Host Hotels & Resorts Inc	HST	7,833.13	0.03%	0.00%	-9.00%	-9.00%	-0.0027%
Hershey Co/The	HSY	26,640.57	0.10%	2.54%	4.50%	7.10%	0.0073%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Humana Inc	HUM	49,154.19	0.19%	0.69%	10.50%	11.23%	0.0213%
Howmet Aerospace Inc	HWM	6,375.83	0.02%	0.00%	10.00%	10.00%	0.0025%
International Business Machines Corp	IBM	103,368.40	0.40%	5.60%	0.50%	6.11%	0.0244%
Intercontinental Exchange Inc	ICE	49,709.09	0.19%	1.32%	9.00%	10.38%	0.0200%
IDEXX Laboratories Inc	IDXX	27,124.62	0.10%	0.00%	10.50%	10.50%	0.0110%
IDEX Corp	IEX	11,203.86	0.04%	1.34%	7.50%	8.89%	0.0039%
International Flavors & Fragrances Inc	IFF	13,038.54	0.05%	2.56%	8.00%	10.66%	0.0054%
Illumina Inc	ILMN	69,634.36	0.27%	0.00%	9.50%	9.50%	0.0256%
Incyte Corp	INCY	22,634.60	0.09%	0.00%	66.00%	66.00%	0.0578%
IHS Markit Ltd	INFO	28,617.09	0.11%	0.95%	11.50%	12.50%	0.0138%
Intel Corp	INTC	250,187.00	0.97%	2.23%	7.00%	9.31%	0.0901%
Intuit Inc	INTU	74,608.11	0.29%	0.75%	12.50%	13.30%	0.0384%
International Paper Co	IP	13,190.22	0.05%	6.11%	6.00%	12.29%	0.0063%
Interpublic Group of Cos Inc/The	IPG	6,405.25	0.02%	6.20%	10.00%	16.51%	0.0041%
IPG Photonics Corp	IPGP	8,352.10	0.03%	0.00%	8.50%	8.50%	0.0027%
IQVIA Holdings Inc	IQV	26,065.77	0.10%	0.00%	9.50%	9.50%	0.0096%
Ingersoll Rand Inc	IR	N/A	N/A	0.00%	N/A	N/A	N/A
Iron Mountain Inc	IRM	7,205.61	0.03%	9.91%	8.50%	18.83%	0.0052%
Intuitive Surgical Inc	ISRG	64,708.33	0.25%	0.00%	11.50%	11.50%	0.0288%
Gartner Inc	IT	10,327.74	0.04%	0.00%	12.00%	12.00%	0.0048%
Illinois Tool Works Inc	ITW	53,396.58	0.21%	2.53%	7.00%	9.62%	0.0199%
Invesco Ltd	IVZ	4,919.41	0.02%	5.78%	4.50%	10.41%	0.0020%
Jacobs Engineering Group Inc	J	10,773.16	0.04%	0.92%	14.00%	14.98%	0.0062%
JB Hunt Transport Services Inc	JBHT	12,343.16	0.05%	0.93%	6.50%	7.46%	0.0036%
Johnson Controls International plc	JCI	24,763.17	0.10%	3.12%	5.50%	8.71%	0.0083%
Jack Henry & Associates Inc	JKHY	13,765.51	0.05%	0.96%	10.00%	11.01%	0.0059%
Johnson & Johnson	JNJ	368,061.10	1.42%	2.89%	10.00%	13.03%	0.1856%
Juniper Networks Inc	JNPR	7,407.78	0.03%	3.58%	5.50%	9.18%	0.0026%
JPMorgan Chase & Co	JPM	288,431.20	1.12%	3.80%	3.50%	7.37%	0.0822%
Kellogg Co	K	22,232.43	0.09%	3.55%	3.00%	6.60%	0.0057%
KeyCorp	KEY	12,181.73	0.05%	5.93%	3.00%	9.02%	0.0043%
Keysight Technologies Inc	KEYS	18,889.72	0.07%	0.00%	17.00%	17.00%	0.0124%
Kraft Heinz Co/The	KHC	39,262.86	0.15%	4.98%	-0.50%	4.47%	0.0068%
Kimco Realty Corp	KIM	5,531.55	0.02%	0.00%	5.00%	5.00%	0.0011%
KLA Corp	KLAC	29,245.34	0.11%	1.80%	11.50%	13.40%	0.0152%
Kimberly-Clark Corp	KMB	47,004.70	0.18%	3.10%	6.50%	9.70%	0.0176%
Kinder Morgan Inc	KMI	33,491.72	0.13%	7.09%	22.00%	29.87%	0.0387%
CarMax Inc	KMX	14,587.59	0.06%	0.00%	7.50%	7.50%	0.0042%
Coca-Cola Co/The	KO	191,727.10	0.74%	3.67%	6.50%	10.29%	0.0763%
Kroger Co/The	KR	25,862.16	0.10%	2.13%	5.50%	7.69%	0.0077%
Kohl's Corp	KSS	3,261.12	0.01%	0.00%	2.00%	2.00%	0.0003%
Kansas City Southern	KSU	13,547.24	0.05%	1.12%	11.50%	12.68%	0.0066%
Loews Corp	L	9,335.03	0.04%	0.75%	12.00%	12.80%	0.0046%
L Brands Inc	LB	3,853.08	0.01%	0.00%	-2.50%	-2.50%	-0.0004%
Leidos Holdings Inc	LDOS	13,241.50	0.05%	1.46%	10.00%	11.53%	0.0059%
Leggett & Platt Inc	LEG	4,465.67	0.02%	4.74%	8.00%	12.93%	0.0022%
Lennar Corp	LEN	18,434.71	0.07%	0.85%	7.00%	7.88%	0.0056%
Laboratory Corp of America Holdings	LH	15,253.44	0.06%	0.00%	8.00%	8.00%	0.0047%
L3Harris Technologies Inc	LHX	36,490.58	N/A	2.02%	N/A	N/A	N/A
Linde PLC	LIN	108,221.40	N/A	1.97%	N/A	N/A	N/A
LKQ Corp	LKQ	7,531.71	0.03%	0.00%	8.00%	8.00%	0.0023%
Eli Lilly and Co	LLY	150,266.60	0.58%	1.89%	10.00%	11.98%	0.0697%
Lockheed Martin Corp	LMT	100,906.10	0.39%	2.78%	8.50%	11.40%	0.0445%
Lincoln National Corp	LNC	6,963.22	0.03%	4.66%	9.50%	14.38%	0.0039%
Alliant Energy Corp	LNT	11,756.63	0.05%	3.23%	5.50%	8.82%	0.0040%
Lowe's Cos Inc	LOW	99,644.91	0.39%	1.67%	10.00%	11.75%	0.0453%
Lam Research Corp	LRCX	45,832.14	0.18%	1.54%	10.00%	11.62%	0.0206%
Southwest Airlines Co	LUV	16,411.57	0.06%	0.00%	2.00%	2.00%	0.0013%
Las Vegas Sands Corp	LVS	34,334.16	0.13%	0.00%	5.50%	5.50%	0.0073%
Lamb Weston Holdings Inc	LW	9,207.76	0.04%	1.51%	9.50%	11.08%	0.0039%
LyondellBasell Industries NV	LYB	20,235.75	0.08%	6.93%	-1.50%	5.38%	0.0042%
Live Nation Entertainment Inc	LYV	9,342.66	N/A	0.00%	N/A	N/A	N/A
Mastercard Inc	MA	295,186.10	1.14%	0.54%	13.50%	14.08%	0.1607%
Mid-America Apartment Communities Inc	MAA	12,582.04	0.05%	3.62%	0.50%	4.13%	0.0020%
Marriott International Inc/MD	MAR	27,561.76	0.11%	0.00%	8.00%	8.00%	0.0085%
Masco Corp	MAS	12,533.90	0.05%	1.15%	6.00%	7.18%	0.0035%
McDonald's Corp	MCD	137,019.60	0.53%	2.71%	7.50%	10.31%	0.0547%
Microchip Technology Inc	MCHP	24,797.55	0.10%	1.45%	8.00%	9.51%	0.0091%
McKesson Corp	MCK	26,649.12	0.10%	1.09%	9.00%	10.14%	0.0105%
Moody's Corp	MCO	49,791.13	0.19%	0.84%	8.00%	8.87%	0.0171%
Mondelez International Inc	MDLZ	72,281.16	0.28%	2.37%	8.00%	10.46%	0.0293%
Medtronic PLC	MDT	119,236.10	0.46%	2.61%	7.50%	10.21%	0.0471%
MetLife Inc	MET	32,245.93	0.12%	5.18%	7.00%	12.36%	0.0154%
MGM Resorts International	MGM	8,349.11	0.03%	0.06%	34.00%	34.07%	0.0110%
Mohawk Industries Inc	MHK	7,067.96	0.03%	0.00%	-3.00%	-3.00%	-0.0008%
McCormick & Co Inc/MD	MKC	22,895.37	0.09%	1.44%	6.50%	7.99%	0.0071%
MarketAxess Holdings Inc	MKTX	19,154.28	0.07%	0.48%	13.50%	14.01%	0.0104%
Martin Marietta Materials Inc	MLM	12,843.68	0.05%	1.07%	9.50%	10.62%	0.0053%
Marsh & McLennan Cos Inc	MMC	52,583.07	0.20%	1.78%	10.00%	11.87%	0.0241%
3M Co	MMM	87,556.34	0.34%	3.86%	4.50%	8.45%	0.0286%



Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Monster Beverage Corp	MNST	35,861.93	0.14%	0.00%	11.50%	11.50%	0.0160%
Altria Group Inc	MO	73,275.45	0.28%	8.52%	6.00%	14.78%	0.0419%
Mosaic Co/The	MOS	4,536.87	0.02%	1.92%	18.50%	20.60%	0.0036%
Marathon Petroleum Corp	MPC	23,549.50	0.09%	6.40%	3.00%	9.50%	0.0087%
Merck & Co Inc	MRK	191,496.90	0.74%	3.22%	9.00%	12.36%	0.0916%
Marathon Oil Corp	MRO	4,579.89	0.02%	0.00%	9.00%	9.00%	0.0016%
Morgan Stanley	MS	73,969.72	0.29%	2.98%	5.00%	8.05%	0.0230%
MSCI Inc	MSCI	27,486.69	0.11%	0.89%	17.00%	17.97%	0.0191%
Microsoft Corp	MSFT	1,501,606.00	5.81%	1.03%	14.50%	15.60%	0.9065%
Motorola Solutions Inc	MSI	23,681.00	0.09%	1.87%	8.00%	9.94%	0.0091%
M&T Bank Corp	MTB	13,202.78	0.05%	4.28%	4.00%	8.37%	0.0043%
Mettler-Toledo International Inc	MTD	18,744.83	0.07%	0.00%	9.50%	9.50%	0.0069%
Micron Technology Inc	MU	53,698.48	0.21%	0.00%	13.50%	13.50%	0.0280%
Maxim Integrated Products Inc	MXIM	16,029.70	0.06%	3.21%	3.50%	6.77%	0.0042%
Mylan NV	MYL	8,281.44	0.03%	0.00%	10.00%	10.00%	0.0032%
Noble Energy Inc	NBL	4,491.10	N/A	0.86%	N/A	N/A	N/A
Norwegian Cruise Line Holdings Ltd	NCLH	3,389.50	0.01%	0.00%	-1.50%	-1.50%	-0.0002%
Nasdaq Inc	NDAQ	18,944.88	0.07%	1.70%	6.00%	7.75%	0.0057%
NextEra Energy Inc	NEE	118,285.40	0.46%	2.38%	10.00%	12.50%	0.0572%
Newmont Corp	NEM	46,878.99	0.18%	1.71%	13.00%	14.82%	0.0269%
Netflix Inc	NFLX	201,353.70	0.78%	0.00%	24.00%	24.00%	0.1870%
NiSource Inc	NI	8,572.35	0.03%	3.75%	13.50%	17.50%	0.0058%
NIKE Inc	NKE	155,624.40	0.60%	0.98%	16.00%	17.06%	0.1027%
NortonLifeLock Inc	NLOK	12,120.36	0.05%	2.53%	4.50%	7.09%	0.0033%
Nielsen Holdings PLC	NLSN	5,037.01	N/A	1.70%	N/A	N/A	N/A
Northrop Grumman Corp	NOC	50,448.86	0.20%	1.92%	10.50%	12.52%	0.0244%
National Oilwell Varco Inc	NOV	4,344.20	N/A	0.00%	N/A	N/A	N/A
ServiceNow Inc	NOW	74,931.75	0.29%	0.00%	46.00%	46.00%	0.1333%
NRG Energy Inc	NRG	7,999.97	0.03%	3.68%	-1.50%	2.15%	0.0007%
Norfolk Southern Corp	NSC	43,332.68	0.17%	2.22%	11.50%	13.85%	0.0232%
NetApp Inc	NTAP	8,972.43	0.03%	4.88%	7.00%	12.05%	0.0042%
Northern Trust Corp	NTRS	16,057.45	0.06%	3.63%	4.50%	8.21%	0.0051%
Nucor Corp	NUE	12,247.16	0.05%	3.96%	3.00%	7.02%	0.0033%
NVIDIA Corp	NVDA	227,193.30	0.88%	0.17%	9.50%	9.68%	0.0851%
NVR Inc	NVR	11,708.45	0.05%	0.00%	9.00%	9.00%	0.0041%
Newell Brands Inc	NWL	6,399.67	0.02%	6.10%	4.50%	10.74%	0.0027%
News Corp	NWS	N/A	N/A	0.00%	N/A	N/A	N/A
Realty Income Corp	O	19,836.99	0.08%	4.79%	6.50%	11.45%	0.0088%
Old Dominion Freight Line Inc	ODFL	19,296.01	0.07%	0.37%	6.50%	6.88%	0.0051%
ONEOK Inc	OKE	13,368.42	0.05%	12.69%	12.50%	25.98%	0.0134%
Omnicom Group Inc	OMC	11,239.14	0.04%	4.96%	5.50%	10.60%	0.0046%
Oracle Corp	ORCL	172,084.80	0.67%	1.76%	9.00%	10.84%	0.0722%
O'Reilly Automotive Inc	ORLY	30,712.45	0.12%	0.00%	10.00%	10.00%	0.0119%
Otis Worldwide Corp	OTIS	N/A	N/A	0.00%	N/A	N/A	N/A
Occidental Petroleum Corp	OXY	16,200.25	0.06%	0.22%	14.50%	14.74%	0.0092%
Paycom Software Inc	PAYC	18,010.91	0.07%	0.00%	23.00%	23.00%	0.0160%
Paychex Inc	PAYX	25,632.70	0.10%	3.58%	9.00%	12.74%	0.0126%
People's United Financial Inc	PBCT	4,728.93	0.02%	6.46%	3.00%	9.56%	0.0017%
PACCAR Inc	PCAR	25,070.16	0.10%	3.17%	3.50%	6.73%	0.0065%
Healthpeak Properties Inc	PEAK	13,130.72	0.05%	5.69%	-15.00%	-9.74%	-0.0049%
Public Service Enterprise Group Inc	PEG	24,272.64	0.09%	4.11%	5.00%	9.21%	0.0087%
PepsiCo Inc	PEP	179,958.80	0.70%	3.16%	6.00%	9.25%	0.0644%
Pfizer Inc	PFE	178,718.90	0.69%	4.72%	8.50%	13.42%	0.0928%
Principal Financial Group Inc	PFJ	10,810.24	0.04%	5.67%	4.50%	10.30%	0.0043%
Procter & Gamble Co/The	PG	288,214.30	1.11%	2.71%	8.50%	11.33%	0.1263%
Progressive Corp/The	PGR	45,237.83	0.18%	0.52%	9.50%	10.04%	0.0176%
Parker-Hannifin Corp	PH	22,273.86	0.09%	2.03%	9.00%	11.12%	0.0096%
PulteGroup Inc	PHM	9,074.16	0.04%	1.45%	5.50%	6.99%	0.0025%
Packaging Corp of America	PKG	9,289.41	0.04%	3.32%	4.00%	7.39%	0.0027%
PerkinElmer Inc	PKI	10,682.04	0.04%	0.29%	9.00%	9.30%	0.0038%
Prologis Inc	PLD	56,735.37	0.22%	2.67%	6.00%	8.75%	0.0192%
Philip Morris International Inc	PM	109,137.60	0.42%	6.68%	5.50%	12.36%	0.0522%
PNC Financial Services Group Inc/The	PNC	43,833.12	0.17%	4.45%	3.00%	7.52%	0.0127%
Pentair PLC	PNR	6,013.25	0.02%	2.09%	6.00%	8.15%	0.0019%
Pinnacle West Capital Corp	PNW	8,056.61	0.03%	4.50%	4.50%	9.10%	0.0028%
PPG Industries Inc	PPG	24,035.84	0.09%	2.00%	4.00%	6.04%	0.0056%
PPL Corp	PPL	19,606.15	0.08%	6.51%	2.50%	9.09%	0.0069%
Perrigo Co PLC	PRGO	7,353.39	0.03%	1.76%	3.50%	5.29%	0.0015%
Prudential Financial Inc	PRU	23,512.78	0.09%	7.37%	5.50%	13.07%	0.0119%
Public Storage	PSA	33,043.68	0.13%	4.22%	4.00%	8.30%	0.0106%
Phillips 66	PSX	30,562.89	0.12%	5.22%	4.00%	9.32%	0.0110%
PVH Corp	PVH	3,380.93	0.01%	0.00%	6.50%	6.50%	0.0009%
Quanta Services Inc	PWR	5,225.04	0.02%	0.53%	11.50%	12.06%	0.0024%
Pioneer Natural Resources Co	PXD	15,193.78	0.06%	2.39%	14.00%	16.56%	0.0097%
PayPal Holdings Inc	PYPL	197,064.00	0.76%	0.00%	15.50%	15.50%	0.1182%
QUALCOMM Inc	QCOM	100,460.80	0.39%	2.92%	12.50%	15.60%	0.0606%
Qorvo Inc	QRVO	12,559.89	0.05%	0.00%	53.00%	53.00%	0.0258%
Royal Caribbean Cruises Ltd	RCL	10,099.91	0.04%	6.47%	-0.50%	5.95%	0.0023%
Everest Re Group Ltd	RE	8,237.32	0.03%	3.01%	9.50%	12.65%	0.0040%
Regency Centers Corp	REG	7,433.45	0.03%	5.37%	14.50%	20.26%	0.0058%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Regeneron Pharmaceuticals Inc	REGN	67,880.05	0.26%	0.00%	6.50%	6.50%	0.0171%
Regions Financial Corp	RF	10,800.31	0.04%	5.50%	5.00%	10.64%	0.0044%
Robert Half International Inc	RHI	5,669.36	0.02%	2.83%	7.00%	9.93%	0.0022%
Raymond James Financial Inc	RJF	9,357.60	0.04%	2.19%	6.50%	8.76%	0.0032%
Ralph Lauren Corp	RL	5,122.13	0.02%	3.89%	7.00%	11.03%	0.0022%
ResMed Inc	RMD	26,308.23	0.10%	0.86%	14.50%	15.42%	0.0157%
Rockwell Automation Inc	ROK	23,747.39	0.09%	1.99%	7.00%	9.06%	0.0083%
Rollins Inc	ROL	13,471.22	0.05%	0.78%	12.00%	12.83%	0.0067%
Roper Technologies Inc	ROP	40,394.33	0.16%	0.53%	8.00%	8.55%	0.0134%
Ross Stores Inc	ROST	30,983.01	0.12%	0.00%	9.00%	9.00%	0.0108%
Republic Services Inc	RSG	25,250.78	0.10%	2.15%	9.00%	11.25%	0.0110%
Raytheon Technologies Corp	RTX	53,459.46	0.21%	3.11%	3.00%	6.16%	0.0127%
SBA Communications Corp	SBAC	32,103.34	0.12%	0.68%	31.00%	31.79%	0.0395%
Starbucks Corp	SBUX	86,018.88	0.33%	2.43%	13.50%	16.09%	0.0536%
Charles Schwab Corp/The	SCHW	43,511.45	0.17%	2.13%	6.50%	8.70%	0.0146%
Sealed Air Corp	SEE	4,889.25	0.02%	2.04%	26.00%	28.31%	0.0054%
Sherwin-Williams Co/The	SHW	51,451.82	0.20%	0.95%	8.50%	9.49%	0.0189%
SVB Financial Group	SIVB	10,708.89	0.04%	0.00%	4.50%	4.50%	0.0019%
J M Smucker Co/The	SJM	12,115.72	0.05%	3.34%	3.00%	6.39%	0.0030%
Schlumberger Ltd	SLB	24,786.34	0.10%	2.80%	5.00%	7.87%	0.0075%
SL Green Realty Corp	SLG	3,998.40	0.02%	7.11%	-1.50%	5.56%	0.0009%
Snap-on Inc	SNA	7,108.63	0.03%	3.30%	5.50%	8.89%	0.0024%
Synopsys Inc	SNPS	28,551.79	0.11%	0.00%	11.00%	11.00%	0.0122%
Southern Co/The	SO	55,310.97	0.21%	4.93%	3.00%	8.00%	0.0171%
Simon Property Group Inc	SPG	19,979.72	0.08%	12.90%	-1.00%	11.84%	0.0091%
S&P Global Inc	SPGI	76,598.97	0.30%	0.84%	11.00%	11.89%	0.0352%
Sempra Energy	SRE	35,051.68	0.14%	3.55%	10.00%	13.73%	0.0186%
STERIS PLC	STE	12,637.25	0.05%	0.99%	9.50%	10.54%	0.0052%
State Street Corp	STT	21,690.31	0.08%	3.38%	3.50%	6.94%	0.0058%
Seagate Technology PLC	STX	13,190.74	0.05%	5.57%	3.00%	8.65%	0.0044%
Constellation Brands Inc	STZ	33,099.65	0.13%	1.75%	7.50%	9.32%	0.0119%
Stanley Black & Decker Inc	SWK	20,204.51	0.08%	2.15%	8.00%	10.24%	0.0080%
Skyworks Solutions Inc	SWKS	21,173.68	0.08%	1.39%	10.00%	11.46%	0.0094%
Synchrony Financia	SYF	12,883.62	0.05%	3.98%	8.00%	12.14%	0.0061%
Stryker Corp	SYK	66,179.14	0.26%	1.31%	10.50%	11.88%	0.0304%
Sysco Corp	SYI	27,835.03	0.11%	3.28%	9.50%	12.94%	0.0139%
AT&T Inc	T	209,623.80	0.81%	7.14%	5.50%	12.84%	0.1041%
Molson Coors Beverage Co	TAP	7,902.25	0.03%	0.00%	5.00%	5.00%	0.0015%
TransDigm Group Inc	TDG	23,445.79	0.09%	0.00%	15.50%	15.50%	0.0141%
Teledyne Technologies Inc	TDY	11,277.53	0.04%	0.00%	8.00%	8.00%	0.0035%
TE Connectivity Ltd	TEL	25,846.95	0.10%	2.46%	4.50%	7.02%	0.0070%
Truist Financial Corp	TFC	50,745.39	0.20%	4.78%	5.00%	9.90%	0.0194%
Teleflex Inc	TFX	16,898.54	0.07%	0.38%	14.00%	14.41%	0.0094%
Target Corp	TGT	59,850.42	0.23%	2.27%	9.50%	11.88%	0.0275%
Tiffany & Co	TIF	14,730.67	0.06%	1.91%	9.50%	11.50%	0.0066%
TJX Cos Inc/The	TJX	61,726.60	0.24%	0.00%	12.00%	12.00%	0.0287%
Thermo Fisher Scientific Inc	TMO	137,427.20	0.53%	0.25%	10.00%	10.26%	0.0546%
T-Mobile US Inc	TMUS	93,372.10	0.36%	0.00%	14.00%	14.00%	0.0506%
Tapestry Inc	TPR	3,534.08	0.01%	0.00%	5.00%	5.00%	0.0007%
T Rowe Price Group Inc	TROW	27,595.30	0.11%	3.02%	8.00%	11.14%	0.0119%
Travelers Cos Inc/The	TRV	28,531.01	0.11%	3.01%	9.50%	12.65%	0.0140%
Tractor Supply Co	TSCO	15,181.85	0.06%	1.07%	9.50%	10.62%	0.0062%
Tyson Foods Inc	TSN	21,695.60	0.08%	2.89%	7.00%	9.99%	0.0084%
Trane Technologies PLC	TT	N/A	N/A	0.00%	N/A	N/A	N/A
Take-Two Interactive Software Inc	TTWO	15,876.08	0.06%	0.00%	20.50%	20.50%	0.0126%
Twitter Inc	TWTR	24,879.49	0.10%	0.00%	25.50%	25.50%	0.0245%
Texas Instruments Inc	TXN	114,254.40	0.44%	2.90%	2.50%	5.44%	0.0240%
Textron Inc	TXT	7,373.90	0.03%	0.25%	8.50%	8.76%	0.0025%
Tyler Technologies Inc	TYL	16,296.65	0.06%	0.00%	10.50%	10.50%	0.0066%
Under Armour Inc	UA	N/A	N/A	0.00%	N/A	N/A	N/A
United Airlines Holdings Inc	UAL	8,176.79	0.03%	0.00%	3.50%	3.50%	0.0011%
UDR Inc	UDR	10,718.53	0.04%	3.96%	11.50%	15.69%	0.0065%
Universal Health Services Inc	UHS	7,583.89	0.03%	0.00%	11.00%	11.00%	0.0032%
Ulta Beauty Inc	ULTA	11,262.40	0.04%	0.00%	9.00%	9.00%	0.0039%
UnitedHealth Group Inc	UNH	273,853.40	1.06%	1.73%	12.00%	13.83%	0.1466%
Unum Group	UNM	3,153.57	0.01%	7.35%	4.50%	12.02%	0.0015%
Union Pacific Corp	UNP	112,335.40	0.43%	2.34%	10.50%	12.96%	0.0563%
United Parcel Service Inc	UPS	94,235.70	0.36%	3.69%	6.00%	9.80%	0.0357%
United Rentals Inc	URI	10,261.80	0.04%	0.00%	9.50%	9.50%	0.0038%
US Bancorp	USB	55,529.32	0.21%	4.56%	3.50%	8.14%	0.0175%
Visa Inc	V	373,058.10	1.44%	0.66%	14.50%	15.21%	0.2195%
Varian Medical Systems Inc	VAR	10,467.69	0.04%	0.00%	13.50%	13.50%	0.0055%
VF Corp	VFC	23,288.99	0.09%	3.25%	6.00%	9.35%	0.0084%
ViacomCBS Inc	VIAC	14,501.70	0.06%	4.07%	8.00%	12.23%	0.0069%
Valero Energy Corp	VLO	23,654.81	0.09%	6.76%	8.00%	15.03%	0.0138%
Vulcan Materials Co	VMC	15,635.04	0.06%	1.15%	12.50%	13.72%	0.0083%
Vornado Realty Trust	VNO	7,220.36	0.03%	6.99%	-20.00%	-13.71%	-0.0038%
Verisk Analytics Inc	VRSK	26,599.30	0.10%	0.66%	10.50%	11.19%	0.0115%
VeriSign Inc	VRSN	23,456.06	0.09%	0.00%	9.50%	9.50%	0.0086%
Vertex Pharmaceuticals Inc	VRTX	75,438.62	0.29%	0.00%	32.00%	32.00%	0.0934%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization (\$million)	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Ventas Inc	VTR	12,820.97	0.05%	5.23%	4.50%	9.85%	0.0049%
Verizon Communications Inc	VZ	223,162.10	0.86%	4.62%	4.00%	8.71%	0.0752%
Westinghouse Air Brake Technologies Corp	WAB	11,093.21	0.04%	0.82%	10.50%	11.36%	0.0049%
Waters Corp	WAT	10,977.87	0.04%	0.00%	10.50%	10.50%	0.0045%
Walgreens Boots Alliance Inc	WBA	36,245.94	0.14%	4.45%	6.00%	10.58%	0.0148%
Western Digital Corp	WDC	12,675.00	0.05%	0.00%	0.50%	0.50%	0.0002%
WEC Energy Group Inc	WEC	27,376.60	0.11%	3.02%	6.00%	9.11%	0.0096%
Welltower Inc	WELL	20,258.64	0.08%	4.94%	6.00%	11.09%	0.0087%
Wells Fargo & Co	WFC	106,998.20	N/A	7.81%	N/A	N/A	N/A
Whirlpool Corp	WHR	7,656.38	0.03%	3.89%	5.00%	8.99%	0.0027%
Willis Towers Watson PLC	WLTW	24,569.27	0.10%	1.43%	11.50%	13.01%	0.0124%
Waste Management Inc	WM	42,777.63	0.17%	2.15%	5.50%	7.71%	0.0128%
Williams Cos Inc/The	WMB	22,852.92	0.09%	8.49%	12.00%	21.00%	0.0186%
Walmart Inc	WMT	340,689.60	1.32%	1.80%	7.00%	8.86%	0.1168%
W R Berkley Corp	WRB	10,024.11	0.04%	0.86%	10.00%	10.90%	0.0042%
Westrock Co	WRK	6,791.04	0.03%	3.05%	5.00%	8.13%	0.0021%
West Pharmaceutical Services Inc	WST	15,805.23	0.06%	0.30%	14.00%	14.32%	0.0088%
Western Union Co/The	WU	8,608.36	0.03%	4.30%	5.50%	9.92%	0.0033%
Weyerhaeuser Co	WY	16,229.98	0.06%	0.00%	17.50%	17.50%	0.0110%
Wynn Resorts Ltd	WYNN	8,113.96	0.03%	0.00%	15.50%	15.50%	0.0049%
Xcel Energy Inc	XEL	33,434.16	0.13%	2.75%	6.00%	8.83%	0.0114%
Xilinx Inc	XLNX	23,114.47	0.09%	1.64%	8.00%	9.71%	0.0087%
Exxon Mobil Corp	XOM	188,155.40	0.73%	7.82%	4.50%	12.50%	0.0910%
DENTSPLY SIRONA Inc	XRAY	9,390.63	0.04%	0.93%	8.50%	9.47%	0.0034%
Xerox Holdings Corp	XRX	3,292.50	0.01%	6.46%	7.50%	14.20%	0.0018%
Xylem Inc/NY	XYL	11,234.75	0.04%	1.67%	8.50%	10.24%	0.0045%
Yum! Brands Inc	YUM	26,054.56	0.10%	2.17%	9.50%	11.77%	0.0119%
Zimmer Biomet Holdings Inc	ZBH	24,447.90	0.09%	0.81%	5.50%	6.33%	0.0060%
Zebra Technologies Corp	ZBRA	13,293.03	0.05%	0.00%	11.00%	11.00%	0.0057%
Zions Bancorp NA	ZION	5,443.16	0.02%	4.09%	4.50%	8.68%	0.0018%
Zoetis Inc	ZTS	63,774.36	0.25%	0.60%	12.00%	12.64%	0.0312%
		25,849,001.89					13.77%

Notes:

[1] Equals sum of Col. [9]

[2] Source: Bloomberg Professional

[3] Equals [1] - [2]

[4] Source: Value Line

[5] Equals weight in S&P 500 based on market capitalization

[6] Source: Value Line

[7] Source: Value Line

[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]

[9] Equals Col. [5] x Col. [8]

Bloomberg and Value Line Beta Coefficients

Company	Ticker	[1]	[2]
		Bloomberg	Value Line
ALLETE, Inc.	ALE	0.98	0.85
Alliant Energy Corporation	LNT	1.00	0.80
Ameren Corporation	AEE	0.92	0.80
American Electric Power Company, Inc.	AEP	0.97	0.75
Avangrid, Inc.	AGR	0.78	0.80
Avista Corporation	AVA	0.93	0.60
CMS Energy Corporation	CMS	0.94	0.80
DTE Energy Company	DTE	1.10	0.90
Evergy, Inc	EVRG	1.04	1.05
Hawaiian Electric Industries, Inc.	HE	0.77	0.55
NextEra Energy, Inc.	NEE	0.91	0.85
NorthWestern Corporation	NWE	1.21	0.55
OGE Energy Corp.	OGE	1.18	1.05
Otter Tail Corporation	OTTR	0.98	0.85
Pinnacle West Capital Corporation	PNW	1.04	0.45
PNM Resources, Inc.	PNM	1.26	0.50
Portland General Electric Company	POR	1.01	0.55
Southern Company	SO	1.04	0.90
WEC Energy Group, Inc.	WEC	0.97	0.80
Xcel Energy Inc.	XEL	0.95	0.45
Mean		1.000	0.743

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line.

Capital Asset Pricing Model and Empirical Capital Asset Pricing Model Results  
Bloomberg and Value Line Derived Market Risk Premium

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
			Ex-Ante Market Risk Premium		CAPM Result		ECAPM	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg Market DCF Derived	Value Line Market DCF Derived
<b>PROXY GROUP BLOOMBERG BETA COEFFICIENT</b>								
Current 30-Year Treasury (30-day average) [9]	1.47%	1.000	11.73%	12.30%	13.21%	13.78%	13.21%	13.77%
Near-Term Projected 30-Year Treasury [10]	1.72%	1.000	11.73%	12.30%	13.45%	14.02%	13.45%	14.02%
Long-Term Projected 30-Year Treasury [11]	3.40%	1.000	11.73%	12.30%	15.14%	15.70%	15.14%	15.70%
Mean					13.93%	14.50%	13.93%	14.50%

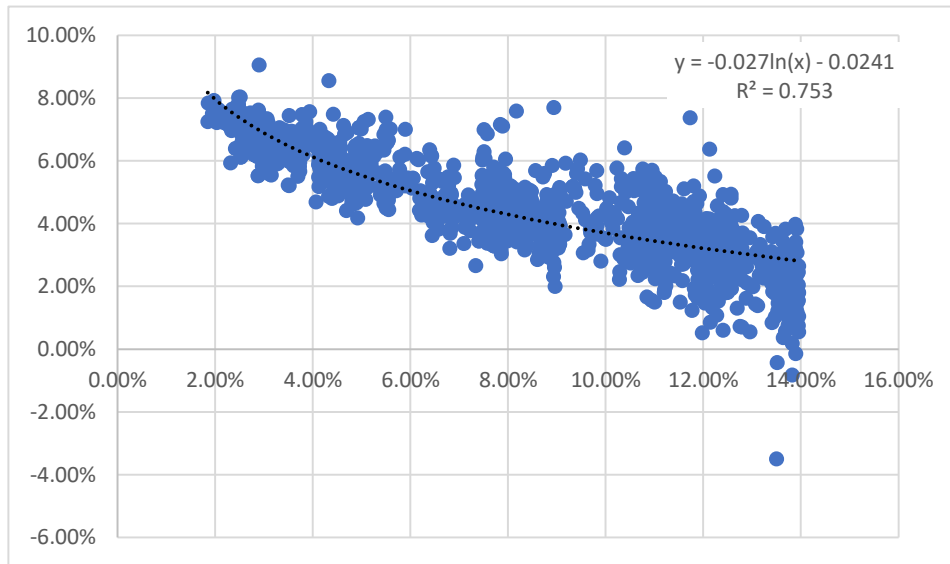
			Ex-Ante Market Risk Premium		CAPM Result		ECAPM	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg Market DCF Derived	Value Line Market DCF Derived
<b>PROXY GROUP VALUE LINE AVERAGE BETA COEFFICIENT</b>								
Current 30-Year Treasury (30-day average) [9]	1.47%	0.743	11.73%	12.30%	10.19%	10.60%	10.94%	11.40%
Near-Term Projected 30-Year Treasury [10]	1.72%	0.743	11.73%	12.30%	10.43%	10.85%	11.18%	11.64%
Long-Term Projected 30-Year Treasury [11]	3.40%	0.743	11.73%	12.30%	12.11%	12.53%	12.87%	13.32%
Mean					10.91%	11.33%	11.66%	12.12%

Notes:

- [1] See Notes [9], [10], [11]  
[2] Source: Supplemental Rebuttal Exhibit (DWD-3)  
[3] Source: Supplemental Rebuttal Exhibit (DWD-2)  
[4] Source: Supplemental Rebuttal Exhibit (DWD-2)  
[5] Equals Col. [1] + (Col. [2] x Col. [3])  
[6] Equals Col. [1] + (Col. [2] x Col. [4])  
[7] Equals Col. [1] + (0.75 x (Col. [2] x Col. [3]) + (0.25 x Col. [3])  
[8] Equals Col. [1] + (0.75 x (Col. [2] x Col. [4]) + (0.25 x Col. [4])  
[9] Source: Bloomberg Professional  
[10] Source: Blue Chip Financial Forecasts, Vol. 39, No. 7, July 1, 2020, at 2.  
[11] Source: Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14.

Bond Yield Plus Risk Premium

[1]	[2]	[3]	[4]	[5]
Constant	Slope	30-Year Treasury Yield	Risk Premium	Return on Equity
-2.41%	-2.65%			
Current 30-Year Treasury		1.47%	8.77%	10.25%
Near-Term Projected 30-Year Treasury		1.72%	8.37%	10.08%
Long-Term Projected 30-Year Treasury		3.40%	6.56%	9.96%



Notes:

[1] Constant of regression equation

[2] Slope of regression equation

[3] Source: Current = Bloomberg Professional

Near Term Projected = Blue Chip Financial Forecasts, Vol. 39, No. 7, July 1, 2020, at 2.

Long Term Projected = Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14.

[4] Equals [1] +  $\ln([3]) \times [2]$

[5] Equals [3] + [4]

[6] Source: S&P Global Market Intelligence

[7] Source: S&P Global Market Intelligence

[8] Source: Bloomberg Professional, equals 200-trading day average (i.e. lag period)

[9] Equals [7] - [8]

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
1/1/1980	14.50%	9.36%	5.14%
1/7/1980	14.39%	9.39%	5.00%
1/9/1980	15.00%	9.40%	5.60%
1/14/1980	15.17%	9.42%	5.75%
1/17/1980	13.93%	9.44%	4.49%
1/23/1980	15.50%	9.47%	6.03%
1/30/1980	13.86%	9.52%	4.34%
1/31/1980	12.61%	9.53%	3.08%
2/6/1980	13.71%	9.58%	4.13%
2/13/1980	12.80%	9.64%	3.16%
2/14/1980	13.00%	9.65%	3.35%
2/19/1980	13.50%	9.68%	3.82%
2/27/1980	13.75%	9.78%	3.97%
2/29/1980	13.75%	9.81%	3.94%
2/29/1980	14.00%	9.81%	4.19%
2/29/1980	14.77%	9.81%	4.96%
3/7/1980	12.70%	9.90%	2.80%
3/14/1980	13.50%	9.97%	3.53%
3/26/1980	14.16%	10.11%	4.05%
3/27/1980	14.24%	10.12%	4.12%
3/28/1980	14.50%	10.14%	4.36%
4/11/1980	12.75%	10.28%	2.47%
4/14/1980	13.85%	10.29%	3.56%
4/16/1980	15.50%	10.32%	5.18%
4/22/1980	13.25%	10.36%	2.89%
4/22/1980	13.90%	10.36%	3.54%
4/24/1980	16.80%	10.38%	6.42%
4/29/1980	15.50%	10.41%	5.09%
5/6/1980	13.70%	10.45%	3.25%
5/7/1980	15.00%	10.46%	4.54%
5/8/1980	13.75%	10.47%	3.28%
5/9/1980	14.35%	10.47%	3.88%
5/13/1980	13.60%	10.49%	3.11%
5/15/1980	13.25%	10.50%	2.75%
5/19/1980	13.75%	10.52%	3.23%
5/27/1980	13.62%	10.55%	3.07%
5/27/1980	14.60%	10.55%	4.05%
5/29/1980	16.00%	10.56%	5.44%
5/30/1980	13.80%	10.57%	3.23%
6/2/1980	15.63%	10.58%	5.05%
6/9/1980	15.90%	10.61%	5.29%
6/10/1980	13.78%	10.61%	3.17%
6/12/1980	14.25%	10.62%	3.63%
6/19/1980	13.40%	10.63%	2.77%
6/30/1980	13.00%	10.65%	2.35%
6/30/1980	13.40%	10.65%	2.75%
7/9/1980	14.75%	10.68%	4.07%
7/10/1980	15.00%	10.69%	4.31%
7/15/1980	15.80%	10.70%	5.10%
7/18/1980	13.80%	10.72%	3.08%
7/22/1980	14.10%	10.73%	3.37%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
7/24/1980	15.00%	10.73%	4.27%
7/25/1980	13.48%	10.74%	2.74%
7/31/1980	14.58%	10.76%	3.82%
8/8/1980	13.50%	10.78%	2.72%
8/8/1980	14.00%	10.78%	3.22%
8/8/1980	15.45%	10.78%	4.67%
8/11/1980	14.85%	10.78%	4.07%
8/14/1980	14.00%	10.79%	3.21%
8/14/1980	16.25%	10.79%	5.46%
8/25/1980	13.75%	10.82%	2.93%
8/27/1980	13.80%	10.83%	2.97%
8/29/1980	12.50%	10.84%	1.66%
9/15/1980	13.50%	10.88%	2.62%
9/15/1980	13.93%	10.88%	3.05%
9/15/1980	15.80%	10.88%	4.92%
9/24/1980	12.50%	10.93%	1.57%
9/24/1980	15.00%	10.93%	4.07%
9/26/1980	13.75%	10.95%	2.80%
9/30/1980	14.10%	10.96%	3.14%
9/30/1980	14.20%	10.96%	3.24%
10/1/1980	13.90%	10.97%	2.93%
10/3/1980	15.50%	10.99%	4.51%
10/7/1980	12.50%	11.00%	1.50%
10/9/1980	13.25%	11.01%	2.24%
10/9/1980	14.50%	11.01%	3.49%
10/9/1980	14.50%	11.01%	3.49%
10/16/1980	16.10%	11.03%	5.07%
10/17/1980	14.50%	11.03%	3.47%
10/31/1980	13.75%	11.11%	2.64%
10/31/1980	14.25%	11.11%	3.14%
11/4/1980	15.00%	11.12%	3.88%
11/5/1980	13.75%	11.13%	2.62%
11/5/1980	14.00%	11.13%	2.87%
11/8/1980	13.75%	11.15%	2.60%
11/10/1980	14.85%	11.15%	3.70%
11/17/1980	14.00%	11.18%	2.82%
11/18/1980	14.00%	11.19%	2.81%
11/19/1980	13.00%	11.19%	1.81%
11/24/1980	14.00%	11.20%	2.80%
11/26/1980	14.00%	11.21%	2.79%
12/8/1980	14.15%	11.22%	2.93%
12/8/1980	15.10%	11.22%	3.88%
12/9/1980	15.35%	11.22%	4.13%
12/12/1980	15.45%	11.22%	4.23%
12/17/1980	13.25%	11.23%	2.02%
12/18/1980	15.80%	11.23%	4.57%
12/19/1980	14.50%	11.23%	3.27%
12/19/1980	14.64%	11.23%	3.41%
12/22/1980	13.45%	11.22%	2.23%
12/22/1980	15.00%	11.22%	3.78%
12/30/1980	14.50%	11.21%	3.29%
12/30/1980	14.95%	11.21%	3.74%
12/31/1980	13.39%	11.21%	2.18%



Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
1/2/1981	15.25%	11.21%	4.04%
1/7/1981	14.30%	11.21%	3.09%
1/19/1981	15.25%	11.19%	4.06%
1/23/1981	13.10%	11.20%	1.90%
1/23/1981	14.40%	11.20%	3.20%
1/26/1981	15.25%	11.20%	4.05%
1/27/1981	15.00%	11.20%	3.80%
1/31/1981	13.47%	11.21%	2.26%
2/3/1981	15.25%	11.23%	4.02%
2/5/1981	15.75%	11.25%	4.50%
2/11/1981	15.60%	11.28%	4.32%
2/20/1981	15.25%	11.34%	3.91%
3/11/1981	15.40%	11.50%	3.90%
3/12/1981	14.51%	11.51%	3.00%
3/12/1981	16.00%	11.51%	4.49%
3/13/1981	13.02%	11.52%	1.50%
3/18/1981	16.19%	11.55%	4.64%
3/19/1981	13.75%	11.56%	2.19%
3/23/1981	14.30%	11.58%	2.72%
3/25/1981	15.30%	11.61%	3.69%
4/1/1981	14.53%	11.69%	2.84%
4/3/1981	19.10%	11.72%	7.38%
4/9/1981	15.00%	11.79%	3.21%
4/9/1981	15.30%	11.79%	3.51%
4/9/1981	16.50%	11.79%	4.71%
4/9/1981	17.00%	11.79%	5.21%
4/10/1981	13.75%	11.81%	1.94%
4/13/1981	13.57%	11.83%	1.74%
4/15/1981	15.30%	11.86%	3.44%
4/16/1981	13.50%	11.88%	1.62%
4/17/1981	14.10%	11.88%	2.22%
4/21/1981	14.00%	11.91%	2.09%
4/21/1981	16.80%	11.91%	4.89%
4/24/1981	16.00%	11.96%	4.04%
4/27/1981	12.50%	11.98%	0.52%
4/27/1981	13.61%	11.98%	1.63%
4/29/1981	13.65%	12.01%	1.64%
4/30/1981	13.50%	12.02%	1.48%
5/4/1981	16.22%	12.06%	4.16%
5/5/1981	14.40%	12.08%	2.32%
5/7/1981	16.25%	12.12%	4.13%
5/7/1981	16.27%	12.12%	4.15%
5/8/1981	13.00%	12.14%	0.86%
5/8/1981	16.00%	12.14%	3.86%
5/12/1981	13.50%	12.17%	1.33%
5/15/1981	15.75%	12.23%	3.52%
5/18/1981	14.88%	12.24%	2.64%
5/20/1981	16.00%	12.27%	3.73%
5/21/1981	14.00%	12.28%	1.72%
5/26/1981	14.90%	12.31%	2.59%
5/27/1981	15.00%	12.32%	2.68%
5/29/1981	15.50%	12.34%	3.16%
6/1/1981	16.50%	12.35%	4.15%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
6/3/1981	14.67%	12.38%	2.29%
6/5/1981	13.00%	12.40%	0.60%
6/10/1981	16.75%	12.42%	4.33%
6/17/1981	14.40%	12.46%	1.94%
6/18/1981	16.33%	12.47%	3.86%
6/25/1981	14.75%	12.52%	2.23%
6/26/1981	16.00%	12.53%	3.47%
6/30/1981	15.25%	12.55%	2.70%
7/1/1981	15.50%	12.56%	2.94%
7/1/1981	17.50%	12.56%	4.94%
7/10/1981	16.00%	12.62%	3.38%
7/14/1981	16.90%	12.64%	4.26%
7/15/1981	16.00%	12.65%	3.35%
7/17/1981	15.00%	12.67%	2.33%
7/20/1981	15.00%	12.68%	2.32%
7/21/1981	14.00%	12.69%	1.31%
7/28/1981	13.48%	12.75%	0.73%
7/31/1981	13.50%	12.79%	0.71%
7/31/1981	15.00%	12.79%	2.21%
7/31/1981	16.00%	12.79%	3.21%
8/5/1981	15.71%	12.83%	2.88%
8/10/1981	14.50%	12.87%	1.63%
8/11/1981	15.00%	12.88%	2.12%
8/20/1981	13.50%	12.95%	0.55%
8/20/1981	16.50%	12.95%	3.55%
8/24/1981	15.00%	12.97%	2.03%
8/28/1981	15.00%	13.01%	1.99%
9/3/1981	14.50%	13.06%	1.44%
9/10/1981	14.50%	13.11%	1.39%
9/11/1981	16.00%	13.12%	2.88%
9/16/1981	16.00%	13.15%	2.85%
9/17/1981	16.50%	13.16%	3.34%
9/23/1981	15.85%	13.20%	2.65%
9/28/1981	15.50%	13.23%	2.27%
10/9/1981	15.75%	13.34%	2.41%
10/15/1981	16.25%	13.37%	2.88%
10/16/1981	15.50%	13.39%	2.11%
10/16/1981	16.50%	13.39%	3.11%
10/19/1981	14.25%	13.40%	0.85%
10/20/1981	15.25%	13.41%	1.84%
10/20/1981	17.00%	13.41%	3.59%
10/23/1981	16.00%	13.46%	2.54%
10/27/1981	10.00%	13.49%	-3.49%
10/29/1981	14.75%	13.52%	1.23%
10/29/1981	16.50%	13.52%	2.98%
11/3/1981	15.17%	13.54%	1.63%
11/5/1981	16.60%	13.56%	3.04%
11/6/1981	15.17%	13.57%	1.60%
11/24/1981	15.50%	13.61%	1.89%
11/25/1981	15.25%	13.61%	1.64%
11/25/1981	15.35%	13.61%	1.74%
11/25/1981	16.10%	13.61%	2.49%
11/25/1981	16.10%	13.61%	2.49%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/1/1981	15.70%	13.61%	2.09%
12/1/1981	16.00%	13.61%	2.39%
12/1/1981	16.49%	13.61%	2.88%
12/1/1981	16.50%	13.61%	2.89%
12/4/1981	16.00%	13.61%	2.39%
12/11/1981	16.25%	13.63%	2.62%
12/14/1981	14.00%	13.63%	0.37%
12/15/1981	15.81%	13.63%	2.18%
12/15/1981	16.00%	13.63%	2.37%
12/16/1981	15.25%	13.63%	1.62%
12/17/1981	16.50%	13.64%	2.86%
12/18/1981	15.45%	13.64%	1.81%
12/30/1981	14.25%	13.67%	0.58%
12/30/1981	16.00%	13.67%	2.33%
12/30/1981	16.25%	13.67%	2.58%
12/31/1981	16.15%	13.68%	2.47%
1/4/1982	15.50%	13.68%	1.82%
1/11/1982	14.50%	13.73%	0.77%
1/11/1982	17.00%	13.73%	3.27%
1/13/1982	14.75%	13.74%	1.01%
1/14/1982	15.75%	13.75%	2.00%
1/15/1982	15.00%	13.76%	1.24%
1/15/1982	16.50%	13.76%	2.74%
1/22/1982	16.25%	13.80%	2.45%
1/27/1982	16.84%	13.81%	3.03%
1/28/1982	13.00%	13.82%	-0.82%
1/29/1982	15.50%	13.82%	1.68%
2/1/1982	15.85%	13.83%	2.02%
2/3/1982	16.44%	13.84%	2.60%
2/8/1982	15.50%	13.86%	1.64%
2/11/1982	16.00%	13.88%	2.12%
2/11/1982	16.20%	13.88%	2.32%
2/17/1982	15.00%	13.89%	1.11%
2/19/1982	15.17%	13.89%	1.28%
2/26/1982	15.25%	13.89%	1.36%
3/1/1982	15.03%	13.89%	1.14%
3/1/1982	16.00%	13.89%	2.11%
3/3/1982	15.00%	13.88%	1.12%
3/8/1982	17.10%	13.88%	3.22%
3/12/1982	16.25%	13.88%	2.37%
3/17/1982	17.30%	13.88%	3.42%
3/22/1982	15.10%	13.89%	1.21%
3/27/1982	15.40%	13.90%	1.50%
3/30/1982	15.50%	13.91%	1.59%
3/31/1982	17.00%	13.91%	3.09%
4/1/1982	14.70%	13.92%	0.78%
4/1/1982	16.50%	13.92%	2.58%
4/2/1982	15.50%	13.92%	1.58%
4/5/1982	15.50%	13.93%	1.57%
4/8/1982	16.40%	13.94%	2.46%
4/13/1982	14.50%	13.94%	0.56%
4/23/1982	15.75%	13.94%	1.81%
4/27/1982	15.00%	13.94%	1.06%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
4/28/1982	15.75%	13.94%	1.81%
4/30/1982	14.70%	13.94%	0.76%
4/30/1982	15.50%	13.94%	1.56%
5/3/1982	16.60%	13.94%	2.66%
5/4/1982	16.00%	13.94%	2.06%
5/14/1982	15.50%	13.92%	1.58%
5/18/1982	15.42%	13.92%	1.50%
5/19/1982	14.69%	13.92%	0.77%
5/20/1982	15.00%	13.91%	1.09%
5/20/1982	15.10%	13.91%	1.19%
5/20/1982	15.50%	13.91%	1.59%
5/20/1982	16.30%	13.91%	2.39%
5/21/1982	17.75%	13.91%	3.84%
5/27/1982	15.00%	13.89%	1.11%
5/28/1982	15.50%	13.89%	1.61%
5/28/1982	17.00%	13.89%	3.11%
6/1/1982	13.75%	13.89%	-0.14%
6/1/1982	16.60%	13.89%	2.71%
6/9/1982	17.86%	13.88%	3.98%
6/14/1982	15.75%	13.88%	1.87%
6/15/1982	14.85%	13.87%	0.98%
6/18/1982	15.50%	13.86%	1.64%
6/21/1982	14.90%	13.86%	1.04%
6/23/1982	16.00%	13.86%	2.14%
6/23/1982	16.17%	13.86%	2.31%
6/24/1982	14.85%	13.86%	0.99%
6/25/1982	14.70%	13.85%	0.85%
7/1/1982	16.00%	13.84%	2.16%
7/2/1982	15.62%	13.83%	1.79%
7/2/1982	17.00%	13.83%	3.17%
7/13/1982	14.00%	13.82%	0.18%
7/13/1982	16.80%	13.82%	2.98%
7/14/1982	15.76%	13.81%	1.95%
7/14/1982	16.02%	13.81%	2.21%
7/19/1982	16.50%	13.79%	2.71%
7/22/1982	14.50%	13.76%	0.74%
7/22/1982	17.00%	13.76%	3.24%
7/27/1982	16.75%	13.74%	3.01%
7/29/1982	16.50%	13.73%	2.77%
8/11/1982	17.50%	13.68%	3.82%
8/18/1982	17.07%	13.62%	3.45%
8/20/1982	15.73%	13.60%	2.13%
8/25/1982	16.00%	13.57%	2.43%
8/26/1982	15.50%	13.56%	1.94%
8/30/1982	15.00%	13.55%	1.45%
9/3/1982	16.20%	13.53%	2.67%
9/8/1982	15.00%	13.52%	1.48%
9/15/1982	13.08%	13.51%	-0.43%
9/15/1982	16.25%	13.51%	2.74%
9/16/1982	16.00%	13.50%	2.50%
9/17/1982	15.25%	13.50%	1.75%
9/23/1982	17.17%	13.47%	3.70%
9/24/1982	14.50%	13.47%	1.03%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
9/27/1982	15.25%	13.46%	1.79%
10/1/1982	15.50%	13.42%	2.08%
10/15/1982	15.90%	13.32%	2.58%
10/22/1982	15.75%	13.24%	2.51%
10/22/1982	17.15%	13.24%	3.91%
10/29/1982	15.54%	13.16%	2.38%
11/1/1982	15.50%	13.14%	2.36%
11/3/1982	17.20%	13.12%	4.08%
11/4/1982	16.25%	13.10%	3.15%
11/5/1982	16.20%	13.09%	3.11%
11/9/1982	16.00%	13.05%	2.95%
11/23/1982	15.50%	12.88%	2.62%
11/23/1982	15.85%	12.88%	2.97%
11/30/1982	16.50%	12.80%	3.70%
12/1/1982	17.04%	12.78%	4.26%
12/6/1982	15.00%	12.72%	2.28%
12/6/1982	16.35%	12.72%	3.63%
12/10/1982	15.50%	12.66%	2.84%
12/13/1982	16.00%	12.64%	3.36%
12/14/1982	15.30%	12.62%	2.68%
12/14/1982	16.40%	12.62%	3.78%
12/20/1982	16.00%	12.57%	3.43%
12/21/1982	14.75%	12.55%	2.20%
12/21/1982	15.85%	12.55%	3.30%
12/22/1982	16.25%	12.54%	3.71%
12/22/1982	16.58%	12.54%	4.04%
12/22/1982	16.75%	12.54%	4.21%
12/29/1982	14.90%	12.48%	2.42%
12/29/1982	16.25%	12.48%	3.77%
12/30/1982	16.00%	12.46%	3.54%
12/30/1982	16.35%	12.46%	3.89%
12/30/1982	16.77%	12.46%	4.31%
1/5/1983	17.33%	12.40%	4.93%
1/11/1983	15.90%	12.34%	3.56%
1/12/1983	14.63%	12.32%	2.31%
1/12/1983	15.50%	12.32%	3.18%
1/20/1983	17.75%	12.23%	5.52%
1/21/1983	15.00%	12.21%	2.79%
1/24/1983	14.50%	12.20%	2.30%
1/24/1983	15.50%	12.20%	3.30%
1/25/1983	15.85%	12.19%	3.66%
1/27/1983	16.14%	12.16%	3.98%
2/1/1983	18.50%	12.13%	6.37%
2/4/1983	14.00%	12.09%	1.91%
2/10/1983	15.00%	12.05%	2.95%
2/21/1983	15.50%	11.98%	3.52%
2/22/1983	15.50%	11.96%	3.54%
2/23/1983	15.10%	11.95%	3.15%
2/23/1983	16.00%	11.95%	4.05%
3/2/1983	15.25%	11.89%	3.36%
3/9/1983	15.20%	11.82%	3.38%
3/15/1983	13.00%	11.76%	1.24%
3/18/1983	15.25%	11.72%	3.53%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
3/23/1983	15.40%	11.68%	3.72%
3/24/1983	15.00%	11.66%	3.34%
3/29/1983	15.50%	11.62%	3.88%
3/30/1983	16.71%	11.60%	5.11%
3/31/1983	15.00%	11.58%	3.42%
4/4/1983	15.20%	11.57%	3.63%
4/8/1983	15.50%	11.49%	4.01%
4/11/1983	14.81%	11.48%	3.33%
4/19/1983	14.50%	11.36%	3.14%
4/20/1983	16.00%	11.35%	4.65%
4/29/1983	16.00%	11.23%	4.77%
5/1/1983	14.50%	11.23%	3.27%
5/9/1983	15.50%	11.14%	4.36%
5/11/1983	16.46%	11.11%	5.35%
5/12/1983	14.14%	11.10%	3.04%
5/18/1983	15.00%	11.04%	3.96%
5/23/1983	14.90%	11.00%	3.90%
5/23/1983	15.50%	11.00%	4.50%
5/25/1983	15.50%	10.97%	4.53%
5/27/1983	15.00%	10.95%	4.05%
5/31/1983	14.00%	10.94%	3.06%
5/31/1983	15.50%	10.94%	4.56%
6/2/1983	14.50%	10.92%	3.58%
6/17/1983	15.03%	10.83%	4.20%
7/1/1983	14.80%	10.77%	4.03%
7/1/1983	14.90%	10.77%	4.13%
7/8/1983	16.25%	10.75%	5.50%
7/13/1983	13.20%	10.75%	2.45%
7/19/1983	15.00%	10.74%	4.26%
7/19/1983	15.10%	10.74%	4.36%
7/25/1983	16.25%	10.73%	5.52%
7/28/1983	15.90%	10.74%	5.16%
8/3/1983	16.34%	10.75%	5.59%
8/3/1983	16.50%	10.75%	5.75%
8/19/1983	15.00%	10.80%	4.20%
8/22/1983	15.50%	10.80%	4.70%
8/22/1983	16.40%	10.80%	5.60%
8/31/1983	14.75%	10.85%	3.90%
9/7/1983	15.00%	10.87%	4.13%
9/14/1983	15.78%	10.89%	4.89%
9/16/1983	15.00%	10.90%	4.10%
9/19/1983	14.50%	10.91%	3.59%
9/20/1983	16.50%	10.91%	5.59%
9/28/1983	14.50%	10.94%	3.56%
9/29/1983	15.50%	10.95%	4.55%
9/30/1983	15.25%	10.95%	4.30%
9/30/1983	16.15%	10.95%	5.20%
10/4/1983	14.80%	10.96%	3.84%
10/7/1983	16.00%	10.97%	5.03%
10/13/1983	15.52%	10.99%	4.53%
10/17/1983	15.50%	11.00%	4.50%
10/18/1983	14.50%	11.00%	3.50%
10/19/1983	16.25%	11.01%	5.24%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
10/19/1983	16.50%	11.01%	5.49%
10/26/1983	15.00%	11.04%	3.96%
10/27/1983	15.20%	11.04%	4.16%
11/1/1983	16.00%	11.06%	4.94%
11/9/1983	14.90%	11.09%	3.81%
11/10/1983	14.35%	11.10%	3.25%
11/23/1983	16.00%	11.13%	4.87%
11/23/1983	16.15%	11.13%	5.02%
11/30/1983	15.00%	11.14%	3.86%
12/5/1983	15.25%	11.15%	4.10%
12/6/1983	15.07%	11.16%	3.91%
12/8/1983	15.90%	11.16%	4.74%
12/9/1983	14.75%	11.17%	3.58%
12/12/1983	14.50%	11.18%	3.32%
12/15/1983	15.56%	11.20%	4.36%
12/19/1983	14.80%	11.21%	3.59%
12/20/1983	14.69%	11.22%	3.47%
12/20/1983	16.00%	11.22%	4.78%
12/20/1983	16.25%	11.22%	5.03%
12/22/1983	14.75%	11.23%	3.52%
12/22/1983	15.75%	11.23%	4.52%
1/3/1984	14.75%	11.27%	3.48%
1/10/1984	15.90%	11.30%	4.60%
1/12/1984	15.60%	11.31%	4.29%
1/18/1984	13.75%	11.33%	2.42%
1/19/1984	15.90%	11.33%	4.57%
1/30/1984	16.10%	11.37%	4.73%
1/31/1984	15.25%	11.38%	3.87%
2/1/1984	14.80%	11.39%	3.41%
2/6/1984	13.75%	11.41%	2.34%
2/6/1984	14.75%	11.41%	3.34%
2/9/1984	15.25%	11.43%	3.82%
2/15/1984	15.70%	11.45%	4.25%
2/20/1984	15.00%	11.46%	3.54%
2/20/1984	15.00%	11.46%	3.54%
2/22/1984	14.75%	11.48%	3.27%
2/28/1984	14.50%	11.52%	2.98%
3/2/1984	14.25%	11.54%	2.71%
3/20/1984	16.00%	11.65%	4.35%
3/23/1984	15.50%	11.67%	3.83%
3/26/1984	14.71%	11.68%	3.03%
4/2/1984	15.50%	11.72%	3.78%
4/6/1984	14.74%	11.76%	2.98%
4/11/1984	15.72%	11.78%	3.94%
4/17/1984	15.00%	11.81%	3.19%
4/18/1984	16.20%	11.82%	4.38%
4/25/1984	14.64%	11.85%	2.79%
4/30/1984	14.40%	11.88%	2.52%
5/16/1984	14.69%	11.99%	2.70%
5/16/1984	15.00%	11.99%	3.01%
5/22/1984	14.40%	12.02%	2.38%
5/29/1984	15.10%	12.06%	3.04%
6/13/1984	15.25%	12.16%	3.09%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
6/15/1984	15.60%	12.17%	3.43%
6/22/1984	16.25%	12.21%	4.04%
6/29/1984	15.25%	12.26%	2.99%
7/2/1984	13.35%	12.27%	1.08%
7/10/1984	16.00%	12.31%	3.69%
7/12/1984	16.50%	12.33%	4.17%
7/13/1984	16.25%	12.34%	3.91%
7/17/1984	14.14%	12.35%	1.79%
7/18/1984	15.30%	12.36%	2.94%
7/18/1984	15.50%	12.36%	3.14%
7/19/1984	14.30%	12.37%	1.93%
7/24/1984	16.79%	12.40%	4.39%
7/31/1984	16.00%	12.43%	3.57%
8/3/1984	14.25%	12.45%	1.80%
8/17/1984	14.30%	12.49%	1.81%
8/20/1984	15.00%	12.49%	2.51%
8/27/1984	16.30%	12.51%	3.79%
8/31/1984	15.55%	12.53%	3.02%
9/6/1984	16.00%	12.54%	3.46%
9/10/1984	14.75%	12.55%	2.20%
9/13/1984	15.00%	12.55%	2.45%
9/17/1984	17.38%	12.56%	4.82%
9/26/1984	14.50%	12.57%	1.93%
9/28/1984	15.00%	12.57%	2.43%
9/28/1984	16.25%	12.57%	3.68%
10/9/1984	14.75%	12.58%	2.17%
10/12/1984	15.60%	12.59%	3.01%
10/22/1984	15.00%	12.59%	2.41%
10/26/1984	16.40%	12.59%	3.81%
10/31/1984	16.25%	12.59%	3.66%
11/7/1984	15.60%	12.58%	3.02%
11/9/1984	16.00%	12.58%	3.42%
11/14/1984	15.75%	12.59%	3.16%
11/20/1984	15.25%	12.58%	2.67%
11/20/1984	15.92%	12.58%	3.34%
11/23/1984	15.00%	12.58%	2.42%
11/28/1984	16.15%	12.57%	3.58%
12/3/1984	15.80%	12.57%	3.23%
12/4/1984	16.50%	12.56%	3.94%
12/18/1984	16.40%	12.54%	3.86%
12/19/1984	14.75%	12.53%	2.22%
12/19/1984	15.00%	12.53%	2.47%
12/20/1984	16.00%	12.53%	3.47%
12/28/1984	16.00%	12.50%	3.50%
1/3/1985	14.75%	12.49%	2.26%
1/10/1985	15.75%	12.47%	3.28%
1/11/1985	16.30%	12.46%	3.84%
1/23/1985	15.80%	12.43%	3.37%
1/24/1985	15.82%	12.43%	3.39%
1/25/1985	16.75%	12.42%	4.33%
1/30/1985	14.90%	12.40%	2.50%
1/31/1985	14.75%	12.39%	2.36%
2/8/1985	14.47%	12.35%	2.12%



Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
3/1/1985	13.84%	12.30%	1.54%
3/8/1985	16.85%	12.28%	4.57%
3/14/1985	15.50%	12.25%	3.25%
3/15/1985	15.62%	12.25%	3.37%
3/29/1985	15.62%	12.16%	3.46%
4/3/1985	14.60%	12.13%	2.47%
4/9/1985	15.50%	12.10%	3.40%
4/16/1985	15.70%	12.05%	3.65%
4/22/1985	14.00%	12.01%	1.99%
4/26/1985	15.50%	11.97%	3.53%
4/29/1985	15.00%	11.96%	3.04%
5/2/1985	14.68%	11.93%	2.75%
5/8/1985	15.62%	11.88%	3.74%
5/10/1985	16.50%	11.86%	4.64%
5/29/1985	14.61%	11.73%	2.88%
5/31/1985	16.00%	11.71%	4.29%
6/14/1985	15.50%	11.60%	3.90%
7/9/1985	15.00%	11.44%	3.56%
7/16/1985	14.50%	11.39%	3.11%
7/26/1985	14.50%	11.32%	3.18%
8/2/1985	14.80%	11.29%	3.51%
8/7/1985	15.00%	11.26%	3.74%
8/28/1985	14.25%	11.15%	3.10%
8/28/1985	15.50%	11.15%	4.35%
8/29/1985	14.50%	11.14%	3.36%
9/9/1985	14.60%	11.11%	3.49%
9/9/1985	14.90%	11.11%	3.79%
9/17/1985	14.90%	11.08%	3.82%
9/23/1985	15.00%	11.06%	3.94%
9/27/1985	15.50%	11.04%	4.46%
9/27/1985	15.80%	11.04%	4.76%
10/2/1985	14.00%	11.03%	2.97%
10/2/1985	14.75%	11.03%	3.72%
10/3/1985	15.25%	11.03%	4.22%
10/24/1985	15.40%	10.96%	4.44%
10/24/1985	15.82%	10.96%	4.86%
10/24/1985	15.85%	10.96%	4.89%
10/28/1985	16.00%	10.95%	5.05%
10/29/1985	16.65%	10.94%	5.71%
10/31/1985	15.06%	10.93%	4.13%
11/4/1985	14.50%	10.91%	3.59%
11/7/1985	15.50%	10.89%	4.61%
11/8/1985	14.30%	10.89%	3.41%
12/12/1985	14.75%	10.73%	4.02%
12/18/1985	15.00%	10.69%	4.31%
12/20/1985	14.50%	10.66%	3.84%
12/20/1985	14.50%	10.66%	3.84%
12/20/1985	15.00%	10.66%	4.34%
1/24/1986	15.40%	10.40%	5.00%
1/31/1986	15.00%	10.35%	4.65%
2/5/1986	15.00%	10.32%	4.68%
2/5/1986	15.75%	10.32%	5.43%
2/10/1986	13.30%	10.29%	3.01%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
2/11/1986	12.50%	10.27%	2.23%
2/14/1986	14.40%	10.24%	4.16%
2/18/1986	16.00%	10.22%	5.78%
2/24/1986	14.50%	10.17%	4.33%
2/26/1986	14.00%	10.15%	3.85%
3/5/1986	14.90%	10.07%	4.83%
3/11/1986	14.50%	10.01%	4.49%
3/12/1986	13.50%	10.00%	3.50%
3/27/1986	14.10%	9.85%	4.25%
3/31/1986	13.50%	9.84%	3.66%
4/1/1986	14.00%	9.82%	4.18%
4/2/1986	15.50%	9.81%	5.69%
4/4/1986	15.00%	9.78%	5.22%
4/14/1986	13.40%	9.68%	3.72%
4/23/1986	15.00%	9.57%	5.43%
5/16/1986	14.50%	9.31%	5.19%
5/16/1986	14.50%	9.31%	5.19%
5/29/1986	13.90%	9.19%	4.71%
5/30/1986	15.10%	9.17%	5.93%
6/2/1986	12.81%	9.16%	3.65%
6/11/1986	14.00%	9.06%	4.94%
6/24/1986	16.63%	8.93%	7.70%
6/26/1986	12.00%	8.90%	3.10%
6/26/1986	14.75%	8.90%	5.85%
6/30/1986	13.00%	8.86%	4.14%
7/10/1986	14.34%	8.74%	5.60%
7/11/1986	12.75%	8.72%	4.03%
7/14/1986	12.60%	8.71%	3.89%
7/17/1986	12.40%	8.65%	3.75%
7/25/1986	14.25%	8.56%	5.69%
8/6/1986	13.50%	8.43%	5.07%
8/14/1986	13.50%	8.34%	5.16%
9/16/1986	12.75%	8.06%	4.69%
9/19/1986	13.25%	8.02%	5.23%
10/1/1986	14.00%	7.94%	6.06%
10/3/1986	13.40%	7.92%	5.48%
10/31/1986	13.50%	7.77%	5.73%
11/5/1986	13.00%	7.74%	5.26%
12/3/1986	12.90%	7.58%	5.32%
12/4/1986	14.44%	7.57%	6.87%
12/16/1986	13.60%	7.52%	6.08%
12/22/1986	13.80%	7.50%	6.30%
12/30/1986	13.00%	7.49%	5.51%
1/2/1987	13.00%	7.48%	5.52%
1/12/1987	12.40%	7.46%	4.94%
1/27/1987	12.71%	7.46%	5.25%
3/2/1987	12.47%	7.47%	5.00%
3/3/1987	13.60%	7.47%	6.13%
3/4/1987	12.38%	7.47%	4.91%
3/10/1987	13.50%	7.47%	6.03%
3/13/1987	13.00%	7.47%	5.53%
3/31/1987	13.00%	7.46%	5.54%
4/6/1987	13.00%	7.47%	5.53%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
4/14/1987	12.50%	7.49%	5.01%
4/16/1987	14.50%	7.50%	7.00%
4/27/1987	12.00%	7.54%	4.46%
5/5/1987	12.85%	7.58%	5.27%
5/12/1987	12.65%	7.62%	5.03%
5/28/1987	13.50%	7.70%	5.80%
6/15/1987	13.20%	7.78%	5.42%
6/29/1987	15.00%	7.84%	7.16%
6/30/1987	12.50%	7.84%	4.66%
7/8/1987	12.00%	7.86%	4.14%
7/10/1987	12.90%	7.87%	5.03%
7/15/1987	13.50%	7.88%	5.62%
7/16/1987	13.50%	7.88%	5.62%
7/16/1987	15.00%	7.88%	7.12%
7/27/1987	13.00%	7.92%	5.08%
7/27/1987	13.40%	7.92%	5.48%
7/27/1987	13.50%	7.92%	5.58%
7/31/1987	12.98%	7.95%	5.03%
8/26/1987	12.63%	8.06%	4.57%
8/26/1987	12.75%	8.06%	4.69%
8/27/1987	13.25%	8.07%	5.18%
9/9/1987	13.00%	8.14%	4.86%
9/30/1987	12.75%	8.31%	4.44%
9/30/1987	13.00%	8.31%	4.69%
10/2/1987	11.50%	8.33%	3.17%
10/15/1987	13.00%	8.44%	4.56%
11/2/1987	13.00%	8.55%	4.45%
11/19/1987	13.00%	8.64%	4.36%
11/30/1987	12.00%	8.69%	3.31%
12/3/1987	14.20%	8.71%	5.49%
12/15/1987	13.25%	8.78%	4.47%
12/16/1987	13.50%	8.79%	4.71%
12/16/1987	13.72%	8.79%	4.93%
12/17/1987	11.75%	8.80%	2.95%
12/18/1987	13.50%	8.80%	4.70%
12/21/1987	12.01%	8.81%	3.20%
12/22/1987	12.00%	8.82%	3.18%
12/22/1987	12.00%	8.82%	3.18%
12/22/1987	12.75%	8.82%	3.93%
12/22/1987	13.00%	8.82%	4.18%
1/20/1988	13.80%	8.94%	4.86%
1/26/1988	13.90%	8.96%	4.94%
1/29/1988	13.20%	8.96%	4.24%
2/4/1988	12.60%	8.96%	3.64%
3/1/1988	11.56%	8.94%	2.62%
3/23/1988	12.87%	8.92%	3.95%
3/24/1988	11.24%	8.92%	2.32%
3/30/1988	12.72%	8.92%	3.80%
4/1/1988	12.50%	8.92%	3.58%
4/7/1988	13.25%	8.93%	4.32%
4/25/1988	10.96%	8.96%	2.00%
5/3/1988	12.91%	8.98%	3.93%
5/11/1988	13.50%	8.99%	4.51%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
5/16/1988	13.00%	8.99%	4.01%
6/30/1988	12.75%	8.99%	3.76%
7/1/1988	12.75%	8.99%	3.76%
7/20/1988	13.40%	8.96%	4.44%
8/5/1988	12.75%	8.91%	3.84%
8/23/1988	11.70%	8.93%	2.77%
8/29/1988	12.75%	8.94%	3.81%
8/30/1988	13.50%	8.94%	4.56%
9/8/1988	12.60%	8.95%	3.65%
10/13/1988	13.10%	8.93%	4.17%
12/19/1988	13.00%	9.02%	3.98%
12/20/1988	12.25%	9.02%	3.23%
12/20/1988	13.00%	9.02%	3.98%
12/21/1988	12.90%	9.02%	3.88%
12/27/1988	13.00%	9.03%	3.97%
12/28/1988	13.10%	9.03%	4.07%
12/30/1988	13.40%	9.04%	4.36%
1/27/1989	13.00%	9.06%	3.94%
1/31/1989	13.00%	9.06%	3.94%
2/17/1989	13.00%	9.05%	3.95%
2/20/1989	12.40%	9.05%	3.35%
3/1/1989	12.76%	9.05%	3.71%
3/8/1989	13.00%	9.05%	3.95%
3/30/1989	14.00%	9.05%	4.95%
4/5/1989	14.20%	9.05%	5.15%
4/18/1989	13.00%	9.05%	3.95%
5/5/1989	12.40%	9.05%	3.35%
6/2/1989	13.20%	9.00%	4.20%
6/8/1989	13.50%	8.98%	4.52%
6/27/1989	13.25%	8.91%	4.34%
6/30/1989	13.00%	8.90%	4.10%
8/14/1989	12.50%	8.77%	3.73%
9/28/1989	12.25%	8.63%	3.62%
10/24/1989	12.50%	8.54%	3.96%
11/9/1989	13.00%	8.48%	4.52%
12/15/1989	13.00%	8.33%	4.67%
12/20/1989	12.90%	8.31%	4.59%
12/21/1989	12.90%	8.31%	4.59%
12/27/1989	12.50%	8.29%	4.21%
12/27/1989	13.00%	8.29%	4.71%
1/10/1990	12.80%	8.24%	4.56%
1/11/1990	12.90%	8.23%	4.67%
1/17/1990	12.80%	8.22%	4.58%
1/26/1990	12.00%	8.19%	3.81%
2/9/1990	12.10%	8.17%	3.93%
2/24/1990	12.86%	8.15%	4.71%
3/30/1990	12.90%	8.16%	4.74%
4/4/1990	15.76%	8.17%	7.59%
4/12/1990	12.52%	8.18%	4.34%
4/19/1990	12.75%	8.20%	4.55%
5/21/1990	12.10%	8.28%	3.82%
5/29/1990	12.40%	8.30%	4.10%
5/31/1990	12.00%	8.30%	3.70%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
6/4/1990	12.90%	8.30%	4.60%
6/6/1990	12.25%	8.31%	3.94%
6/15/1990	13.20%	8.32%	4.88%
6/20/1990	12.92%	8.32%	4.60%
6/27/1990	12.90%	8.33%	4.57%
6/29/1990	12.50%	8.34%	4.16%
7/6/1990	12.10%	8.34%	3.76%
7/6/1990	12.35%	8.34%	4.01%
8/10/1990	12.55%	8.41%	4.14%
8/16/1990	13.21%	8.43%	4.78%
8/22/1990	13.10%	8.45%	4.65%
8/24/1990	13.00%	8.46%	4.54%
9/26/1990	11.45%	8.59%	2.86%
10/2/1990	13.00%	8.61%	4.39%
10/5/1990	12.84%	8.63%	4.21%
10/19/1990	13.00%	8.67%	4.33%
10/25/1990	12.30%	8.68%	3.62%
11/21/1990	12.70%	8.69%	4.01%
12/13/1990	12.30%	8.67%	3.63%
12/17/1990	12.87%	8.67%	4.20%
12/18/1990	13.10%	8.67%	4.43%
12/19/1990	12.00%	8.66%	3.34%
12/20/1990	12.75%	8.66%	4.09%
12/21/1990	12.50%	8.66%	3.84%
12/27/1990	12.79%	8.66%	4.13%
1/2/1991	13.10%	8.66%	4.44%
1/4/1991	12.50%	8.65%	3.85%
1/15/1991	12.75%	8.65%	4.10%
1/25/1991	11.70%	8.63%	3.07%
2/4/1991	12.50%	8.60%	3.90%
2/7/1991	12.50%	8.59%	3.91%
2/12/1991	13.00%	8.57%	4.43%
2/14/1991	12.72%	8.56%	4.16%
2/22/1991	12.80%	8.55%	4.25%
3/6/1991	13.10%	8.53%	4.57%
3/8/1991	12.30%	8.52%	3.78%
3/8/1991	13.00%	8.52%	4.48%
4/22/1991	13.00%	8.49%	4.51%
5/7/1991	13.50%	8.47%	5.03%
5/13/1991	13.25%	8.47%	4.78%
5/30/1991	12.75%	8.43%	4.32%
6/12/1991	12.00%	8.41%	3.59%
6/25/1991	11.70%	8.38%	3.32%
6/28/1991	12.50%	8.38%	4.12%
7/1/1991	12.00%	8.37%	3.63%
7/3/1991	12.50%	8.36%	4.14%
7/19/1991	12.10%	8.34%	3.76%
8/1/1991	12.90%	8.32%	4.58%
8/16/1991	13.20%	8.29%	4.91%
9/27/1991	12.50%	8.23%	4.27%
9/30/1991	12.25%	8.23%	4.02%
10/17/1991	13.00%	8.20%	4.80%
10/23/1991	12.50%	8.20%	4.30%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
10/23/1991	12.55%	8.20%	4.35%
10/31/1991	11.80%	8.19%	3.61%
11/1/1991	12.00%	8.19%	3.81%
11/5/1991	12.25%	8.19%	4.06%
11/12/1991	12.50%	8.18%	4.32%
11/12/1991	13.25%	8.18%	5.07%
11/25/1991	12.40%	8.18%	4.22%
11/26/1991	11.60%	8.18%	3.42%
11/26/1991	12.50%	8.18%	4.32%
11/27/1991	12.10%	8.18%	3.92%
12/18/1991	12.25%	8.15%	4.10%
12/19/1991	12.60%	8.15%	4.45%
12/19/1991	12.80%	8.15%	4.65%
12/20/1991	12.65%	8.14%	4.51%
1/9/1992	12.80%	8.09%	4.71%
1/16/1992	12.75%	8.07%	4.68%
1/21/1992	12.00%	8.06%	3.94%
1/22/1992	13.00%	8.06%	4.94%
1/27/1992	12.65%	8.05%	4.60%
1/31/1992	12.00%	8.04%	3.96%
2/11/1992	12.40%	8.03%	4.37%
2/25/1992	12.50%	8.01%	4.49%
3/16/1992	11.43%	7.98%	3.45%
3/18/1992	12.28%	7.98%	4.30%
4/2/1992	12.10%	7.95%	4.15%
4/9/1992	11.45%	7.93%	3.52%
4/10/1992	11.50%	7.93%	3.57%
4/14/1992	11.50%	7.92%	3.58%
5/5/1992	11.50%	7.89%	3.61%
5/12/1992	11.87%	7.88%	3.99%
5/12/1992	12.46%	7.88%	4.58%
6/1/1992	12.30%	7.86%	4.44%
6/12/1992	10.90%	7.85%	3.05%
6/26/1992	12.35%	7.85%	4.50%
6/29/1992	11.00%	7.85%	3.15%
6/30/1992	13.00%	7.85%	5.15%
7/13/1992	11.90%	7.84%	4.06%
7/13/1992	13.50%	7.84%	5.66%
7/22/1992	11.20%	7.83%	3.37%
8/3/1992	12.00%	7.81%	4.19%
8/6/1992	12.50%	7.80%	4.70%
9/22/1992	12.00%	7.71%	4.29%
9/28/1992	11.40%	7.71%	3.69%
9/30/1992	11.75%	7.71%	4.04%
10/2/1992	13.00%	7.70%	5.30%
10/12/1992	12.20%	7.70%	4.50%
10/16/1992	13.16%	7.71%	5.45%
10/30/1992	11.75%	7.71%	4.04%
11/3/1992	12.00%	7.71%	4.29%
12/3/1992	11.85%	7.68%	4.17%
12/15/1992	11.00%	7.66%	3.34%
12/16/1992	11.90%	7.66%	4.24%
12/16/1992	12.40%	7.66%	4.74%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/17/1992	12.00%	7.66%	4.34%
12/22/1992	12.30%	7.65%	4.65%
12/22/1992	12.40%	7.65%	4.75%
12/29/1992	12.25%	7.63%	4.62%
12/30/1992	12.00%	7.63%	4.37%
12/31/1992	11.90%	7.62%	4.28%
1/12/1993	12.00%	7.61%	4.39%
1/21/1993	11.25%	7.59%	3.66%
2/2/1993	11.40%	7.56%	3.84%
2/15/1993	12.30%	7.52%	4.78%
2/24/1993	11.90%	7.49%	4.41%
2/26/1993	11.80%	7.48%	4.32%
2/26/1993	12.20%	7.48%	4.72%
4/23/1993	11.75%	7.29%	4.46%
5/11/1993	11.75%	7.24%	4.51%
5/14/1993	11.50%	7.24%	4.26%
5/25/1993	11.50%	7.22%	4.28%
5/28/1993	11.00%	7.22%	3.78%
6/3/1993	12.00%	7.21%	4.79%
6/16/1993	11.50%	7.19%	4.31%
6/18/1993	12.10%	7.18%	4.92%
6/25/1993	11.67%	7.17%	4.50%
7/21/1993	11.38%	7.10%	4.28%
7/23/1993	10.46%	7.09%	3.37%
8/24/1993	11.50%	6.95%	4.55%
9/21/1993	10.50%	6.80%	3.70%
9/29/1993	11.47%	6.76%	4.71%
9/30/1993	11.60%	6.76%	4.84%
11/2/1993	10.80%	6.60%	4.20%
11/12/1993	12.00%	6.56%	5.44%
11/26/1993	11.00%	6.52%	4.48%
12/14/1993	10.55%	6.48%	4.07%
12/16/1993	10.60%	6.48%	4.12%
12/21/1993	11.30%	6.47%	4.83%
1/4/1994	10.07%	6.44%	3.63%
1/13/1994	11.00%	6.42%	4.58%
1/21/1994	11.00%	6.40%	4.60%
1/28/1994	11.35%	6.39%	4.96%
2/3/1994	11.40%	6.38%	5.02%
2/17/1994	10.60%	6.36%	4.24%
2/25/1994	11.25%	6.35%	4.90%
2/25/1994	12.00%	6.35%	5.65%
3/1/1994	11.00%	6.35%	4.65%
3/4/1994	11.00%	6.34%	4.66%
4/25/1994	11.00%	6.40%	4.60%
5/10/1994	11.75%	6.44%	5.31%
5/13/1994	10.50%	6.46%	4.04%
6/3/1994	11.00%	6.54%	4.46%
6/27/1994	11.40%	6.65%	4.75%
8/5/1994	12.75%	6.88%	5.87%
10/31/1994	10.00%	7.33%	2.67%
11/9/1994	10.85%	7.40%	3.45%
11/9/1994	10.85%	7.40%	3.45%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
11/18/1994	11.20%	7.46%	3.74%
11/22/1994	11.60%	7.47%	4.13%
11/28/1994	11.06%	7.50%	3.56%
12/8/1994	11.50%	7.55%	3.95%
12/8/1994	11.70%	7.55%	4.15%
12/14/1994	10.95%	7.57%	3.38%
12/15/1994	11.50%	7.57%	3.93%
12/19/1994	11.50%	7.58%	3.92%
12/28/1994	12.15%	7.61%	4.54%
1/9/1995	12.28%	7.64%	4.64%
1/31/1995	11.00%	7.69%	3.31%
2/10/1995	12.60%	7.70%	4.90%
2/17/1995	11.90%	7.70%	4.20%
3/9/1995	11.50%	7.72%	3.78%
3/20/1995	12.00%	7.72%	4.28%
3/23/1995	12.81%	7.72%	5.09%
3/29/1995	11.60%	7.72%	3.88%
4/6/1995	11.10%	7.72%	3.38%
4/7/1995	11.00%	7.71%	3.29%
4/19/1995	11.00%	7.70%	3.30%
5/12/1995	11.63%	7.68%	3.95%
5/25/1995	11.20%	7.65%	3.55%
6/9/1995	11.25%	7.60%	3.65%
6/21/1995	12.25%	7.56%	4.69%
6/30/1995	11.10%	7.51%	3.59%
9/11/1995	11.30%	7.20%	4.10%
9/27/1995	11.30%	7.12%	4.18%
9/27/1995	11.50%	7.12%	4.38%
9/27/1995	11.75%	7.12%	4.63%
9/29/1995	11.00%	7.11%	3.89%
11/9/1995	11.38%	6.89%	4.49%
11/9/1995	12.36%	6.89%	5.47%
11/17/1995	11.00%	6.85%	4.15%
12/4/1995	11.35%	6.78%	4.57%
12/11/1995	11.40%	6.74%	4.66%
12/20/1995	11.60%	6.69%	4.91%
12/27/1995	12.00%	6.66%	5.34%
2/5/1996	12.25%	6.48%	5.77%
3/29/1996	10.67%	6.42%	4.25%
4/8/1996	11.00%	6.42%	4.58%
4/11/1996	12.59%	6.43%	6.16%
4/11/1996	12.59%	6.43%	6.16%
4/24/1996	11.25%	6.43%	4.82%
4/30/1996	11.00%	6.43%	4.57%
5/13/1996	11.00%	6.44%	4.56%
5/23/1996	11.25%	6.43%	4.82%
6/25/1996	11.25%	6.48%	4.77%
6/27/1996	11.20%	6.48%	4.72%
8/12/1996	10.40%	6.57%	3.83%
9/27/1996	11.00%	6.71%	4.29%
10/16/1996	12.25%	6.76%	5.49%
11/5/1996	11.00%	6.81%	4.19%
11/26/1996	11.30%	6.83%	4.47%



Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/18/1996	11.75%	6.84%	4.91%
12/31/1996	11.50%	6.83%	4.67%
1/3/1997	10.70%	6.83%	3.87%
2/13/1997	11.80%	6.82%	4.98%
2/20/1997	11.80%	6.82%	4.98%
3/31/1997	10.02%	6.80%	3.22%
4/2/1997	11.65%	6.80%	4.85%
4/28/1997	11.50%	6.81%	4.69%
4/29/1997	11.70%	6.81%	4.89%
7/17/1997	12.00%	6.77%	5.23%
12/12/1997	11.00%	6.60%	4.40%
12/23/1997	11.12%	6.57%	4.55%
2/2/1998	12.75%	6.39%	6.36%
3/2/1998	11.25%	6.28%	4.97%
3/6/1998	10.75%	6.27%	4.48%
3/20/1998	10.50%	6.22%	4.28%
4/30/1998	12.20%	6.12%	6.08%
7/10/1998	11.40%	5.94%	5.46%
9/15/1998	11.90%	5.78%	6.12%
11/30/1998	12.60%	5.58%	7.02%
12/10/1998	12.20%	5.54%	6.66%
12/17/1998	12.10%	5.52%	6.58%
2/5/1999	10.30%	5.38%	4.92%
3/4/1999	10.50%	5.34%	5.16%
4/6/1999	10.94%	5.32%	5.62%
7/29/1999	10.75%	5.52%	5.23%
9/23/1999	10.75%	5.70%	5.05%
11/17/1999	11.10%	5.90%	5.20%
1/7/2000	11.50%	6.05%	5.45%
1/7/2000	11.50%	6.05%	5.45%
2/17/2000	10.60%	6.17%	4.43%
3/28/2000	11.25%	6.20%	5.05%
5/24/2000	11.00%	6.18%	4.82%
7/18/2000	12.20%	6.16%	6.04%
9/29/2000	11.16%	6.03%	5.13%
11/28/2000	12.90%	5.89%	7.01%
11/30/2000	12.10%	5.88%	6.22%
1/23/2001	11.25%	5.79%	5.46%
2/8/2001	11.50%	5.77%	5.73%
5/8/2001	10.75%	5.62%	5.13%
6/26/2001	11.00%	5.62%	5.38%
7/25/2001	11.02%	5.60%	5.42%
7/25/2001	11.02%	5.60%	5.42%
7/31/2001	11.00%	5.59%	5.41%
8/31/2001	10.50%	5.56%	4.94%
9/7/2001	10.75%	5.55%	5.20%
9/10/2001	11.00%	5.55%	5.45%
9/20/2001	10.00%	5.55%	4.45%
10/24/2001	10.30%	5.54%	4.76%
11/28/2001	10.60%	5.49%	5.11%
12/3/2001	12.88%	5.49%	7.39%
12/20/2001	12.50%	5.50%	7.00%
1/22/2002	10.00%	5.50%	4.50%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
3/27/2002	10.10%	5.45%	4.65%
4/22/2002	11.80%	5.45%	6.35%
5/28/2002	10.17%	5.46%	4.71%
6/10/2002	12.00%	5.47%	6.53%
6/18/2002	11.16%	5.48%	5.68%
6/20/2002	11.00%	5.48%	5.52%
6/20/2002	12.30%	5.48%	6.82%
7/15/2002	11.00%	5.48%	5.52%
9/12/2002	12.30%	5.45%	6.85%
9/26/2002	10.45%	5.41%	5.04%
12/4/2002	11.55%	5.29%	6.26%
12/13/2002	11.75%	5.27%	6.48%
12/20/2002	11.40%	5.25%	6.15%
1/8/2003	11.10%	5.19%	5.91%
1/31/2003	12.45%	5.13%	7.32%
2/28/2003	12.30%	5.04%	7.26%
3/6/2003	10.75%	5.02%	5.73%
3/7/2003	9.96%	5.02%	4.94%
3/20/2003	12.00%	4.98%	7.02%
4/3/2003	12.00%	4.95%	7.05%
4/15/2003	11.15%	4.93%	6.22%
6/25/2003	10.75%	4.79%	5.96%
6/26/2003	10.75%	4.79%	5.96%
7/9/2003	9.75%	4.79%	4.96%
7/16/2003	9.75%	4.79%	4.96%
7/25/2003	9.50%	4.79%	4.71%
8/26/2003	10.50%	4.83%	5.67%
12/17/2003	9.85%	4.94%	4.91%
12/17/2003	10.70%	4.94%	5.76%
12/18/2003	11.50%	4.94%	6.56%
12/19/2003	12.00%	4.94%	7.06%
12/19/2003	12.00%	4.94%	7.06%
12/23/2003	10.50%	4.94%	5.56%
1/13/2004	12.00%	4.95%	7.05%
3/2/2004	10.75%	4.99%	5.76%
3/26/2004	10.25%	5.02%	5.23%
4/5/2004	11.25%	5.03%	6.22%
5/18/2004	10.50%	5.07%	5.43%
5/25/2004	10.25%	5.07%	5.18%
5/27/2004	10.25%	5.08%	5.17%
6/2/2004	11.22%	5.08%	6.14%
6/30/2004	10.50%	5.10%	5.40%
6/30/2004	10.50%	5.10%	5.40%
7/16/2004	11.60%	5.11%	6.49%
8/25/2004	10.25%	5.10%	5.15%
9/9/2004	10.40%	5.10%	5.30%
11/9/2004	10.50%	5.07%	5.43%
11/23/2004	11.00%	5.06%	5.94%
12/14/2004	10.97%	5.07%	5.90%
12/21/2004	11.25%	5.07%	6.18%
12/21/2004	11.50%	5.07%	6.43%
12/22/2004	10.70%	5.07%	5.63%
12/22/2004	11.50%	5.07%	6.43%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/29/2004	9.85%	5.08%	4.77%
1/6/2005	10.70%	5.08%	5.62%
2/18/2005	10.30%	4.98%	5.32%
2/25/2005	10.50%	4.96%	5.54%
3/10/2005	11.00%	4.93%	6.07%
3/24/2005	10.30%	4.89%	5.41%
4/4/2005	10.00%	4.87%	5.13%
4/7/2005	10.25%	4.87%	5.38%
5/18/2005	10.25%	4.78%	5.47%
5/25/2005	10.75%	4.76%	5.99%
5/26/2005	9.75%	4.76%	4.99%
6/1/2005	9.75%	4.75%	5.00%
7/19/2005	11.50%	4.64%	6.86%
8/5/2005	11.75%	4.62%	7.13%
8/15/2005	10.13%	4.61%	5.52%
9/28/2005	10.00%	4.54%	5.46%
10/4/2005	10.75%	4.53%	6.22%
12/12/2005	11.00%	4.55%	6.45%
12/13/2005	10.75%	4.55%	6.20%
12/21/2005	10.29%	4.54%	5.75%
12/21/2005	10.40%	4.54%	5.86%
12/22/2005	11.00%	4.54%	6.46%
12/22/2005	11.15%	4.54%	6.61%
12/28/2005	10.00%	4.54%	5.46%
12/28/2005	10.00%	4.54%	5.46%
1/5/2006	11.00%	4.53%	6.47%
1/27/2006	9.75%	4.52%	5.23%
3/3/2006	10.39%	4.53%	5.86%
4/17/2006	10.20%	4.62%	5.58%
4/26/2006	10.60%	4.64%	5.96%
5/17/2006	11.60%	4.69%	6.91%
6/6/2006	10.00%	4.75%	5.25%
6/27/2006	10.75%	4.80%	5.95%
7/6/2006	10.20%	4.83%	5.37%
7/24/2006	9.60%	4.86%	4.74%
7/26/2006	10.50%	4.86%	5.64%
7/28/2006	10.05%	4.87%	5.18%
8/23/2006	9.55%	4.89%	4.66%
9/1/2006	10.54%	4.90%	5.64%
9/14/2006	10.00%	4.91%	5.09%
10/6/2006	9.67%	4.92%	4.75%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.12%	4.95%	5.17%
12/1/2006	10.25%	4.96%	5.29%
12/1/2006	10.50%	4.96%	5.54%
12/7/2006	10.75%	4.96%	5.79%
12/21/2006	10.90%	4.95%	5.95%
12/21/2006	11.25%	4.95%	6.30%
12/22/2006	10.25%	4.95%	5.30%
1/5/2007	10.00%	4.95%	5.05%
1/11/2007	10.10%	4.95%	5.15%
1/11/2007	10.10%	4.95%	5.15%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
1/11/2007	10.90%	4.95%	5.95%
1/12/2007	10.10%	4.95%	5.15%
1/13/2007	10.40%	4.95%	5.45%
1/19/2007	10.80%	4.94%	5.86%
3/21/2007	11.35%	4.86%	6.49%
3/22/2007	9.75%	4.86%	4.89%
5/15/2007	10.00%	4.81%	5.19%
5/17/2007	10.25%	4.80%	5.45%
5/17/2007	10.25%	4.80%	5.45%
5/22/2007	10.20%	4.80%	5.40%
5/22/2007	10.50%	4.80%	5.70%
5/23/2007	10.70%	4.80%	5.90%
5/25/2007	9.67%	4.80%	4.87%
6/15/2007	9.90%	4.82%	5.08%
6/21/2007	10.20%	4.83%	5.37%
6/22/2007	10.50%	4.83%	5.67%
6/28/2007	10.75%	4.84%	5.91%
7/12/2007	9.67%	4.86%	4.81%
7/19/2007	10.00%	4.87%	5.13%
7/19/2007	10.00%	4.87%	5.13%
8/15/2007	10.40%	4.88%	5.52%
10/9/2007	10.00%	4.91%	5.09%
10/17/2007	9.10%	4.91%	4.19%
10/31/2007	9.96%	4.90%	5.06%
11/29/2007	10.90%	4.87%	6.03%
12/6/2007	10.75%	4.86%	5.89%
12/13/2007	9.96%	4.86%	5.10%
12/14/2007	10.70%	4.86%	5.84%
12/14/2007	10.80%	4.86%	5.94%
12/19/2007	10.20%	4.86%	5.34%
12/20/2007	10.20%	4.86%	5.34%
12/20/2007	11.00%	4.86%	6.14%
12/28/2007	10.25%	4.85%	5.40%
12/31/2007	11.25%	4.85%	6.40%
1/8/2008	10.75%	4.83%	5.92%
1/17/2008	10.75%	4.81%	5.94%
1/28/2008	9.40%	4.80%	4.60%
1/30/2008	10.00%	4.79%	5.21%
1/31/2008	10.71%	4.79%	5.92%
2/29/2008	10.25%	4.75%	5.50%
3/12/2008	10.25%	4.73%	5.52%
3/25/2008	9.10%	4.68%	4.42%
4/22/2008	10.25%	4.60%	5.65%
4/24/2008	10.10%	4.60%	5.50%
5/1/2008	10.70%	4.58%	6.12%
5/19/2008	11.00%	4.56%	6.44%
5/27/2008	10.00%	4.55%	5.45%
6/10/2008	10.70%	4.54%	6.16%
6/27/2008	10.50%	4.54%	5.96%
6/27/2008	11.04%	4.54%	6.50%
7/10/2008	10.43%	4.52%	5.91%
7/16/2008	9.40%	4.51%	4.89%
7/30/2008	10.80%	4.51%	6.29%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
7/31/2008	10.70%	4.51%	6.19%
8/11/2008	10.25%	4.50%	5.75%
8/26/2008	10.18%	4.50%	5.68%
9/10/2008	10.30%	4.50%	5.80%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/30/2008	10.20%	4.47%	5.73%
10/8/2008	10.15%	4.46%	5.69%
11/13/2008	10.55%	4.45%	6.10%
11/17/2008	10.20%	4.44%	5.76%
12/1/2008	10.25%	4.39%	5.86%
12/23/2008	11.00%	4.27%	6.73%
12/29/2008	10.00%	4.24%	5.76%
12/29/2008	10.20%	4.24%	5.96%
12/31/2008	10.75%	4.22%	6.53%
1/14/2009	10.50%	4.15%	6.35%
1/21/2009	10.50%	4.11%	6.39%
1/21/2009	10.50%	4.11%	6.39%
1/21/2009	10.50%	4.11%	6.39%
1/27/2009	10.76%	4.09%	6.67%
1/30/2009	10.50%	4.07%	6.43%
2/4/2009	8.75%	4.06%	4.69%
3/4/2009	10.50%	3.96%	6.54%
3/12/2009	11.50%	3.93%	7.57%
4/2/2009	11.10%	3.85%	7.25%
4/21/2009	10.61%	3.80%	6.81%
4/24/2009	10.00%	3.78%	6.22%
4/30/2009	11.25%	3.77%	7.48%
5/4/2009	10.74%	3.77%	6.97%
5/20/2009	10.25%	3.74%	6.51%
5/28/2009	10.50%	3.74%	6.76%
6/22/2009	10.00%	3.76%	6.24%
6/24/2009	10.80%	3.76%	7.04%
7/8/2009	10.63%	3.76%	6.87%
7/17/2009	10.50%	3.77%	6.73%
8/31/2009	10.25%	3.82%	6.43%
10/14/2009	10.70%	4.02%	6.68%
10/23/2009	10.88%	4.06%	6.82%
11/2/2009	10.70%	4.10%	6.60%
11/3/2009	10.70%	4.10%	6.60%
11/24/2009	10.25%	4.16%	6.09%
11/25/2009	10.75%	4.16%	6.59%
11/30/2009	10.35%	4.17%	6.18%
12/3/2009	10.50%	4.18%	6.32%
12/7/2009	10.70%	4.19%	6.51%
12/16/2009	10.90%	4.22%	6.68%
12/16/2009	11.00%	4.22%	6.78%
12/18/2009	10.40%	4.22%	6.18%
12/18/2009	10.40%	4.22%	6.18%
12/22/2009	10.20%	4.23%	5.97%
12/22/2009	10.40%	4.23%	6.17%
12/22/2009	10.40%	4.23%	6.17%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/30/2009	10.00%	4.26%	5.74%
1/4/2010	10.80%	4.28%	6.52%
1/11/2010	11.00%	4.31%	6.69%
1/26/2010	10.13%	4.35%	5.78%
1/27/2010	10.40%	4.36%	6.04%
1/27/2010	10.40%	4.36%	6.04%
1/27/2010	10.70%	4.36%	6.34%
2/9/2010	9.80%	4.38%	5.42%
2/18/2010	10.60%	4.40%	6.20%
2/24/2010	10.18%	4.41%	5.77%
3/2/2010	9.63%	4.41%	5.22%
3/4/2010	10.50%	4.41%	6.09%
3/5/2010	10.50%	4.41%	6.09%
3/11/2010	11.90%	4.42%	7.48%
3/17/2010	10.00%	4.41%	5.59%
3/25/2010	10.15%	4.42%	5.73%
4/2/2010	10.10%	4.43%	5.67%
4/27/2010	10.00%	4.46%	5.54%
4/29/2010	9.90%	4.46%	5.44%
4/29/2010	10.06%	4.46%	5.60%
4/29/2010	10.26%	4.46%	5.80%
5/12/2010	10.30%	4.45%	5.85%
5/12/2010	10.30%	4.45%	5.85%
5/28/2010	10.10%	4.44%	5.66%
5/28/2010	10.20%	4.44%	5.76%
6/7/2010	10.30%	4.44%	5.86%
6/16/2010	10.00%	4.44%	5.56%
6/28/2010	9.67%	4.43%	5.24%
6/28/2010	10.50%	4.43%	6.07%
6/30/2010	9.40%	4.43%	4.97%
7/1/2010	10.25%	4.43%	5.82%
7/15/2010	10.53%	4.43%	6.10%
7/15/2010	10.70%	4.43%	6.27%
7/30/2010	10.70%	4.41%	6.29%
8/4/2010	10.50%	4.41%	6.09%
8/6/2010	9.83%	4.41%	5.42%
8/25/2010	9.90%	4.37%	5.53%
9/3/2010	10.60%	4.35%	6.25%
9/14/2010	10.70%	4.33%	6.37%
9/16/2010	10.00%	4.32%	5.68%
9/16/2010	10.00%	4.32%	5.68%
9/30/2010	9.75%	4.28%	5.47%
10/14/2010	10.35%	4.24%	6.11%
10/28/2010	10.70%	4.21%	6.49%
11/2/2010	10.38%	4.20%	6.18%
11/4/2010	10.70%	4.19%	6.51%
11/19/2010	10.20%	4.17%	6.03%
11/22/2010	10.00%	4.17%	5.83%
12/1/2010	10.13%	4.16%	5.97%
12/6/2010	9.86%	4.15%	5.71%
12/9/2010	10.25%	4.15%	6.10%
12/13/2010	10.70%	4.15%	6.55%
12/14/2010	10.13%	4.15%	5.98%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/15/2010	10.44%	4.15%	6.29%
12/17/2010	10.00%	4.14%	5.86%
12/20/2010	10.60%	4.14%	6.46%
12/21/2010	10.30%	4.14%	6.16%
12/27/2010	9.90%	4.14%	5.76%
12/29/2010	11.15%	4.14%	7.01%
1/5/2011	10.15%	4.13%	6.02%
1/12/2011	10.30%	4.12%	6.18%
1/13/2011	10.30%	4.12%	6.18%
1/18/2011	10.00%	4.12%	5.88%
1/20/2011	9.30%	4.12%	5.18%
1/20/2011	10.13%	4.12%	6.01%
1/31/2011	9.60%	4.11%	5.49%
2/3/2011	10.00%	4.11%	5.89%
2/25/2011	10.00%	4.14%	5.86%
3/25/2011	9.80%	4.18%	5.62%
3/30/2011	10.00%	4.18%	5.82%
4/12/2011	10.00%	4.21%	5.79%
4/25/2011	10.74%	4.23%	6.51%
4/26/2011	9.67%	4.24%	5.43%
4/27/2011	10.40%	4.24%	6.16%
5/4/2011	10.00%	4.25%	5.75%
5/4/2011	10.00%	4.25%	5.75%
5/24/2011	10.50%	4.27%	6.23%
6/8/2011	10.75%	4.30%	6.45%
6/16/2011	9.20%	4.32%	4.88%
6/17/2011	9.95%	4.32%	5.63%
7/13/2011	10.20%	4.37%	5.83%
8/1/2011	9.20%	4.39%	4.81%
8/8/2011	10.00%	4.38%	5.62%
8/11/2011	10.00%	4.38%	5.62%
8/12/2011	10.35%	4.38%	5.97%
8/19/2011	10.25%	4.36%	5.89%
9/2/2011	12.88%	4.32%	8.56%
9/22/2011	10.00%	4.24%	5.76%
10/12/2011	10.30%	4.14%	6.16%
10/20/2011	10.50%	4.10%	6.40%
11/30/2011	10.90%	3.87%	7.03%
11/30/2011	10.90%	3.87%	7.03%
12/14/2011	10.00%	3.79%	6.21%
12/14/2011	10.30%	3.79%	6.51%
12/20/2011	10.20%	3.76%	6.44%
12/21/2011	10.20%	3.75%	6.45%
12/22/2011	9.90%	3.75%	6.15%
12/22/2011	10.40%	3.75%	6.65%
12/23/2011	10.19%	3.74%	6.45%
1/25/2012	10.50%	3.57%	6.93%
1/27/2012	10.50%	3.55%	6.95%
2/15/2012	10.20%	3.47%	6.73%
2/23/2012	9.90%	3.43%	6.47%
2/27/2012	10.25%	3.42%	6.83%
2/29/2012	10.40%	3.41%	6.99%
3/29/2012	10.37%	3.31%	7.06%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
4/4/2012	10.00%	3.29%	6.71%
4/26/2012	10.00%	3.20%	6.80%
5/2/2012	10.00%	3.18%	6.82%
5/7/2012	9.80%	3.16%	6.64%
5/15/2012	10.00%	3.14%	6.86%
5/29/2012	10.05%	3.11%	6.94%
6/7/2012	10.30%	3.07%	7.23%
6/14/2012	9.40%	3.06%	6.34%
6/15/2012	10.40%	3.06%	7.34%
6/18/2012	9.60%	3.05%	6.55%
6/19/2012	9.25%	3.05%	6.20%
6/26/2012	10.10%	3.04%	7.06%
6/29/2012	10.00%	3.04%	6.96%
7/9/2012	10.20%	3.03%	7.17%
7/16/2012	9.80%	3.02%	6.78%
7/20/2012	9.31%	3.01%	6.30%
7/20/2012	9.81%	3.01%	6.80%
9/13/2012	9.80%	2.94%	6.86%
9/19/2012	9.80%	2.94%	6.86%
9/19/2012	10.05%	2.94%	7.11%
9/26/2012	9.50%	2.94%	6.56%
10/12/2012	9.60%	2.93%	6.67%
10/23/2012	9.75%	2.93%	6.82%
10/24/2012	10.30%	2.93%	7.37%
11/9/2012	10.30%	2.92%	7.38%
11/28/2012	10.40%	2.90%	7.50%
11/29/2012	9.75%	2.89%	6.86%
11/29/2012	9.88%	2.89%	6.99%
12/5/2012	9.71%	2.89%	6.82%
12/5/2012	10.40%	2.89%	7.51%
12/12/2012	9.80%	2.88%	6.92%
12/13/2012	9.50%	2.88%	6.62%
12/13/2012	10.50%	2.88%	7.62%
12/14/2012	10.40%	2.88%	7.52%
12/19/2012	9.71%	2.87%	6.84%
12/19/2012	10.25%	2.87%	7.38%
12/20/2012	9.50%	2.87%	6.63%
12/20/2012	9.80%	2.87%	6.93%
12/20/2012	10.25%	2.87%	7.38%
12/20/2012	10.25%	2.87%	7.38%
12/20/2012	10.30%	2.87%	7.43%
12/20/2012	10.40%	2.87%	7.53%
12/20/2012	10.45%	2.87%	7.58%
12/21/2012	10.20%	2.87%	7.33%
12/26/2012	9.80%	2.86%	6.94%
1/9/2013	9.70%	2.84%	6.86%
1/9/2013	9.70%	2.84%	6.86%
1/9/2013	9.70%	2.84%	6.86%
1/16/2013	9.60%	2.84%	6.76%
1/16/2013	9.60%	2.84%	6.76%
2/13/2013	10.20%	2.84%	7.36%
2/22/2013	9.75%	2.85%	6.90%
2/27/2013	10.00%	2.86%	7.14%



Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
3/14/2013	9.30%	2.88%	6.42%
3/27/2013	9.80%	2.90%	6.90%
5/1/2013	9.84%	2.94%	6.90%
5/15/2013	10.30%	2.96%	7.34%
5/30/2013	10.20%	2.98%	7.22%
5/31/2013	9.00%	2.98%	6.02%
6/11/2013	10.00%	3.00%	7.00%
6/21/2013	9.75%	3.02%	6.73%
6/25/2013	9.80%	3.03%	6.77%
7/12/2013	9.36%	3.08%	6.28%
8/8/2013	9.83%	3.14%	6.69%
8/14/2013	9.15%	3.16%	5.99%
9/11/2013	10.20%	3.27%	6.93%
9/11/2013	10.25%	3.27%	6.98%
9/24/2013	10.20%	3.31%	6.89%
10/3/2013	9.65%	3.33%	6.32%
11/6/2013	10.20%	3.41%	6.79%
11/21/2013	10.00%	3.44%	6.56%
11/26/2013	10.00%	3.45%	6.55%
12/3/2013	10.25%	3.47%	6.78%
12/4/2013	9.50%	3.47%	6.03%
12/5/2013	10.20%	3.48%	6.72%
12/9/2013	8.72%	3.49%	5.23%
12/9/2013	9.75%	3.49%	6.26%
12/13/2013	9.75%	3.50%	6.25%
12/16/2013	9.95%	3.50%	6.45%
12/16/2013	9.95%	3.50%	6.45%
12/16/2013	10.12%	3.50%	6.62%
12/17/2013	9.50%	3.51%	5.99%
12/17/2013	10.95%	3.51%	7.44%
12/18/2013	8.72%	3.51%	5.21%
12/18/2013	9.80%	3.51%	6.29%
12/19/2013	10.15%	3.51%	6.64%
12/30/2013	9.50%	3.54%	5.96%
2/20/2014	9.20%	3.69%	5.51%
2/26/2014	9.75%	3.70%	6.05%
3/17/2014	9.55%	3.72%	5.83%
3/26/2014	9.40%	3.73%	5.67%
3/26/2014	9.96%	3.73%	6.23%
4/2/2014	9.70%	3.73%	5.97%
5/16/2014	9.80%	3.70%	6.10%
5/30/2014	9.70%	3.68%	6.02%
6/6/2014	10.40%	3.67%	6.73%
6/30/2014	9.55%	3.64%	5.91%
7/2/2014	9.62%	3.64%	5.98%
7/10/2014	9.95%	3.63%	6.32%
7/23/2014	9.75%	3.61%	6.14%
7/29/2014	9.45%	3.60%	5.85%
7/31/2014	9.90%	3.60%	6.30%
8/20/2014	9.75%	3.56%	6.19%
8/25/2014	9.60%	3.56%	6.04%
8/29/2014	9.80%	3.54%	6.26%
9/11/2014	9.60%	3.51%	6.09%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
9/15/2014	10.25%	3.51%	6.74%
10/9/2014	9.80%	3.44%	6.36%
11/6/2014	9.56%	3.37%	6.19%
11/6/2014	10.20%	3.37%	6.83%
11/14/2014	10.20%	3.35%	6.85%
11/26/2014	9.70%	3.32%	6.38%
11/26/2014	10.20%	3.32%	6.88%
12/4/2014	9.68%	3.30%	6.38%
12/10/2014	9.25%	3.29%	5.96%
12/10/2014	9.25%	3.29%	5.96%
12/11/2014	10.07%	3.28%	6.79%
12/12/2014	10.20%	3.28%	6.92%
12/17/2014	9.17%	3.27%	5.90%
12/18/2014	9.83%	3.26%	6.57%
1/23/2015	9.50%	3.14%	6.36%
2/24/2015	9.83%	3.04%	6.79%
3/18/2015	9.75%	2.98%	6.77%
3/25/2015	9.50%	2.95%	6.55%
3/26/2015	9.72%	2.95%	6.77%
4/23/2015	10.20%	2.87%	7.33%
4/29/2015	9.53%	2.86%	6.67%
5/1/2015	9.60%	2.85%	6.75%
5/26/2015	9.75%	2.83%	6.92%
6/17/2015	9.00%	2.82%	6.18%
6/17/2015	9.00%	2.82%	6.18%
9/2/2015	9.50%	2.79%	6.71%
9/10/2015	9.30%	2.79%	6.51%
10/15/2015	9.00%	2.81%	6.19%
11/19/2015	10.00%	2.88%	7.12%
11/19/2015	10.30%	2.88%	7.42%
12/3/2015	10.00%	2.90%	7.10%
12/9/2015	9.14%	2.90%	6.24%
12/9/2015	9.14%	2.90%	6.24%
12/11/2015	10.30%	2.90%	7.40%
12/15/2015	9.60%	2.91%	6.69%
12/17/2015	9.70%	2.91%	6.79%
12/18/2015	9.50%	2.91%	6.59%
12/30/2015	9.50%	2.93%	6.57%
1/6/2016	9.50%	2.94%	6.56%
2/23/2016	9.75%	2.94%	6.81%
3/16/2016	9.85%	2.91%	6.94%
4/29/2016	9.80%	2.83%	6.97%
6/3/2016	9.75%	2.80%	6.95%
6/8/2016	9.48%	2.80%	6.68%
6/15/2016	9.00%	2.78%	6.22%
6/15/2016	9.00%	2.78%	6.22%
7/18/2016	9.98%	2.71%	7.27%
8/9/2016	9.85%	2.66%	7.19%
8/18/2016	9.50%	2.63%	6.87%
8/24/2016	9.75%	2.61%	7.14%
9/1/2016	9.50%	2.59%	6.91%
9/8/2016	10.00%	2.57%	7.43%
9/28/2016	9.58%	2.53%	7.05%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
9/30/2016	9.90%	2.53%	7.37%
11/9/2016	9.80%	2.48%	7.32%
11/10/2016	9.50%	2.48%	7.02%
11/15/2016	9.55%	2.49%	7.06%
11/18/2016	10.00%	2.50%	7.50%
11/29/2016	10.55%	2.51%	8.04%
12/1/2016	10.00%	2.51%	7.49%
12/6/2016	8.64%	2.52%	6.12%
12/6/2016	8.64%	2.52%	6.12%
12/7/2016	10.10%	2.52%	7.58%
12/12/2016	9.60%	2.53%	7.07%
12/14/2016	9.10%	2.53%	6.57%
12/19/2016	9.00%	2.54%	6.46%
12/19/2016	9.37%	2.54%	6.83%
12/22/2016	9.60%	2.55%	7.05%
12/22/2016	9.90%	2.55%	7.35%
12/28/2016	9.50%	2.55%	6.95%
1/18/2017	9.45%	2.58%	6.87%
1/24/2017	9.00%	2.59%	6.41%
1/31/2017	10.10%	2.60%	7.50%
2/15/2017	9.60%	2.62%	6.98%
2/22/2017	9.60%	2.64%	6.96%
2/24/2017	9.75%	2.64%	7.11%
2/28/2017	10.10%	2.64%	7.46%
3/2/2017	9.41%	2.65%	6.76%
3/20/2017	9.50%	2.68%	6.82%
4/4/2017	10.25%	2.72%	7.53%
4/12/2017	9.40%	2.74%	6.66%
4/20/2017	9.50%	2.76%	6.74%
5/3/2017	9.50%	2.79%	6.71%
5/11/2017	9.20%	2.81%	6.39%
5/18/2017	9.50%	2.83%	6.67%
5/23/2017	9.70%	2.84%	6.86%
6/16/2017	9.65%	2.89%	6.76%
6/22/2017	9.70%	2.90%	6.80%
6/22/2017	9.70%	2.90%	6.80%
7/24/2017	9.50%	2.95%	6.55%
8/15/2017	10.00%	2.97%	7.03%
9/22/2017	9.60%	2.93%	6.67%
9/28/2017	9.80%	2.92%	6.88%
10/20/2017	9.50%	2.91%	6.59%
10/26/2017	10.20%	2.91%	7.29%
10/26/2017	10.25%	2.91%	7.34%
10/26/2017	10.30%	2.91%	7.39%
11/6/2017	10.25%	2.90%	7.35%
11/15/2017	11.95%	2.89%	9.06%
11/30/2017	10.00%	2.88%	7.12%
11/30/2017	10.00%	2.88%	7.12%
12/5/2017	9.50%	2.88%	6.62%
12/6/2017	8.40%	2.87%	5.53%
12/6/2017	8.40%	2.87%	5.53%
12/7/2017	9.80%	2.87%	6.93%
12/14/2017	9.60%	2.86%	6.74%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/14/2017	9.65%	2.86%	6.79%
12/18/2017	9.50%	2.86%	6.64%
12/20/2017	9.58%	2.85%	6.73%
12/21/2017	9.10%	2.85%	6.25%
12/28/2017	9.50%	2.85%	6.65%
12/29/2017	9.51%	2.85%	6.66%
1/18/2018	9.70%	2.84%	6.86%
1/31/2018	9.30%	2.84%	6.46%
2/2/2018	9.98%	2.84%	7.14%
2/23/2018	9.90%	2.85%	7.05%
3/12/2018	9.25%	2.86%	6.39%
3/15/2018	9.00%	2.87%	6.13%
3/29/2018	10.00%	2.88%	7.12%
4/12/2018	9.90%	2.89%	7.01%
4/13/2018	9.73%	2.89%	6.84%
4/18/2018	9.25%	2.89%	6.36%
4/18/2018	10.00%	2.89%	7.11%
4/26/2018	9.50%	2.90%	6.60%
5/30/2018	9.95%	2.94%	7.01%
5/31/2018	9.50%	2.94%	6.56%
6/14/2018	8.80%	2.96%	5.84%
6/22/2018	9.50%	2.97%	6.53%
6/22/2018	9.90%	2.97%	6.93%
6/28/2018	9.35%	2.97%	6.38%
6/29/2018	9.50%	2.97%	6.53%
8/8/2018	9.53%	2.99%	6.54%
8/21/2018	9.70%	3.00%	6.70%
8/24/2018	9.28%	3.01%	6.27%
9/5/2018	9.56%	3.02%	6.54%
9/14/2018	10.00%	3.03%	6.97%
9/20/2018	9.80%	3.04%	6.76%
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9/26/2018	10.00%	3.05%	6.95%
9/27/2018	9.30%	3.05%	6.25%
10/4/2018	9.85%	3.06%	6.79%
10/29/2018	9.60%	3.10%	6.50%
10/31/2018	9.99%	3.11%	6.88%
11/1/2018	8.69%	3.11%	5.58%
12/4/2018	8.69%	3.14%	5.55%
12/13/2018	9.30%	3.14%	6.16%
12/14/2018	9.50%	3.14%	6.36%
12/19/2018	9.84%	3.14%	6.70%
12/20/2018	9.65%	3.14%	6.51%
12/21/2018	9.30%	3.14%	6.16%
1/9/2019	10.00%	3.14%	6.86%
2/27/2019	9.75%	3.12%	6.63%
3/13/2019	9.60%	3.12%	6.48%
3/14/2019	9.00%	3.12%	5.88%
3/14/2019	9.40%	3.12%	6.28%
3/22/2019	9.65%	3.12%	6.53%
4/30/2019	9.73%	3.11%	6.62%
4/30/2019	9.73%	3.11%	6.62%
5/1/2019	9.50%	3.11%	6.39%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
5/2/2019	10.00%	3.11%	6.89%
5/8/2019	9.50%	3.10%	6.40%
5/14/2019	8.75%	3.10%	5.65%
5/16/2019	9.50%	3.09%	6.41%
5/23/2019	9.90%	3.09%	6.81%
8/12/2019	9.60%	2.89%	6.71%
8/29/2019	9.06%	2.81%	6.25%
9/4/2019	10.00%	2.78%	7.22%
9/30/2019	9.60%	2.70%	6.90%
10/31/2019	10.00%	2.60%	7.40%
10/31/2019	10.00%	2.60%	7.40%
11/7/2019	9.35%	2.58%	6.77%
11/29/2019	9.50%	2.52%	6.98%
12/4/2019	8.91%	2.51%	6.40%
12/4/2019	9.75%	2.51%	7.24%
12/16/2019	8.91%	2.48%	6.43%
12/17/2019	9.70%	2.47%	7.23%
12/17/2019	10.50%	2.47%	8.03%
12/19/2019	10.20%	2.47%	7.73%
12/19/2019	10.25%	2.47%	7.78%
12/19/2019	10.30%	2.47%	7.83%
12/20/2019	9.45%	2.46%	6.99%
12/20/2019	9.65%	2.46%	7.19%
12/24/2019	9.50%	2.46%	7.04%
1/8/2020	10.02%	2.43%	7.59%
1/16/2020	8.80%	2.41%	6.39%
1/22/2020	9.50%	2.39%	7.11%
1/23/2020	9.86%	2.39%	7.47%
2/6/2020	10.00%	2.34%	7.66%
2/11/2020	9.30%	2.33%	6.97%
2/14/2020	9.40%	2.32%	7.08%
2/19/2020	8.25%	2.31%	5.94%
2/24/2020	9.75%	2.29%	7.46%
2/27/2020	9.40%	2.28%	7.12%
3/11/2020	9.70%	2.23%	7.47%
3/25/2020	9.40%	2.17%	7.23%
4/17/2020	9.70%	2.07%	7.63%
4/27/2020	9.25%	2.02%	7.23%
5/8/2020	9.90%	1.97%	7.93%
5/20/2020	9.45%	1.94%	7.51%
6/29/2020	9.70%	1.85%	7.85%
6/30/2020	9.10%	1.85%	7.25%

4.73%

1,630

Expected Earnings Analysis

Company	Ticker	[1] Expected ROE	[2]	[3]	[4]	[5]	[6]
		2023-2025	Shares Outstanding		% Increase	Adjustment	Adjusted
			2020	2023-2025		Factor	ROE
ALLETE, Inc.	ALE	8.0%	52.75	54.25	0.56%	1.003	8.02%
Alliant Energy Corporation	LNT	10.5%	250.00	265.00	1.17%	1.006	10.56%
Ameren Corporation	AEE	10.0%	254.00	275.00	1.60%	1.008	10.08%
American Electric Power Company, Inc.	AEP	10.5%	495.00	530.00	1.38%	1.007	10.57%
Avangrid, Inc.	AGR	5.5%	309.00	309.00	0.00%	1.000	5.50%
Avista Corporation	AVA	8.0%	68.70	71.00	0.66%	1.003	8.03%
CMS Energy Corporation	CMS	13.5%	287.00	300.00	0.89%	1.004	13.56%
DTE Energy Company	DTE	10.5%	193.00	205.00	1.21%	1.006	10.56%
Evergy, Inc	EVERG	8.0%	227.00	227.00	0.00%	1.000	8.00%
Hawaiian Electric Industries, Inc.	HE	9.0%	110.00	114.00	0.72%	1.004	9.03%
NextEra Energy, Inc.	NEE	12.5%	490.00	495.00	0.20%	1.001	12.51%
NorthWestern Corporation	NWE	8.5%	51.00	53.00	0.77%	1.004	8.53%
OGE Energy Corp.	OGE	12.5%	200.00	200.00	0.00%	1.000	12.50%
Otter Tail Corporation	OTTR	11.0%	41.50	41.50	0.00%	1.000	11.00%
Pinnacle West Capital Corporation	PNW	10.5%	112.70	118.00	0.92%	1.005	10.55%
PNM Resources, Inc.	PNM	9.5%	85.83	92.00	1.40%	1.007	9.57%
Portland General Electric Company	POR	9.0%	89.55	90.00	0.10%	1.001	9.00%
Southern Company	SO	12.5%	1060.00	1090.00	0.56%	1.003	12.53%
WEC Energy Group, Inc.	WEC	12.5%	315.50	315.50	0.00%	1.000	12.50%
Xcel Energy Inc.	XEL	11.0%	539.00	548.00	0.33%	1.002	11.02%
						Median	10.55%
						Mean	10.18%

Notes:

[1] Source: Value Line

[2] Source: Value Line

[3] Source: Value Line

[4] Equals =  $([3] / [2])^{(1/5)} - 1$

[5] Equals  $(2 \times (1 + [4])) / (2 + [4])$

[6] Equals [1] x [5]

Hawaiian Electric

Bloomberg and Value Line Beta Coefficients DEC Direct (6/28/2019)

Company	Ticker	[1] Bloomberg	[2] Value Line
ALLETE, Inc.	ALE	0.461	0.650
Alliant Energy Corporation	LNT	0.537	0.600
Ameren Corporation	AEE	0.465	0.600
American Electric Power Company, Inc.	AEP	0.511	0.550
Avangrid, Inc.	AGR	0.491	0.400
CMS Energy Corporation	CMS	0.479	0.550
DTE Energy Company	DTE	0.505	0.550
Evergy, Inc	EVERG	0.440	0.529
Hawaiian Electric Industries, Inc.	HE	0.488	0.600
NextEra Energy, Inc.	NEE	0.553	0.600
NorthWestern Corporation	NWE	0.494	0.600
OGE Energy Corp.	OGE	0.568	0.800
Otter Tail Corporation	OTTR	0.558	0.700
Pinnacle West Capital Corporation	PNW	0.447	0.550
PNM Resources, Inc.	PNM	0.521	0.650
Portland General Electric Company	POR	0.481	0.600
Southern Company	SO	0.479	0.500
WEC Energy Group, Inc.	WEC	0.483	0.500
Xcel Energy Inc.	XEL	0.497	0.500

Mean		0.498	0.580
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Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology.



Bloomberg and Value Line Beta Coefficients DEP Direct (8/16/2019)

Company	Ticker	[1] Bloomberg	[2] Value Line
ALLETE, Inc.	ALE	0.480	0.650
Alliant Energy Corporation	LNT	0.530	0.600
Ameren Corporation	AEE	0.475	0.600
American Electric Power Company, Inc.	AEP	0.514	0.550
Avangrid, Inc.	AGR	0.478	0.400
CMS Energy Corporation	CMS	0.481	0.550
DTE Energy Company	DTE	0.511	0.550
Evergy, Inc	EVERG	0.450	0.521
Hawaiian Electric Industries, Inc.	HE	0.495	0.550
NextEra Energy, Inc.	NEE	0.544	0.550
NorthWestern Corporation	NWE	0.504	0.600
OGE Energy Corp.	OGE	0.557	0.800
Otter Tail Corporation	OTTR	0.563	0.700
Pinnacle West Capital Corporation	PNW	0.441	0.550
PNM Resources, Inc.	PNM	0.529	0.600
Portland General Electric Company	POR	0.488	0.600
Southern Company	SO	0.464	0.500
WEC Energy Group, Inc.	WEC	0.479	0.500
Xcel Energy Inc.	XEL	0.502	0.500
Mean		0.499	0.572

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology.

Bloomberg and Value Line Beta Coefficients DEC Rebuttal (1/31/2020)

Company	Ticker	[1] Bloomberg	[2] Value Line
ALLETE, Inc.	ALE	0.484	0.650
Alliant Energy Corporation	LNT	0.537	0.600
Ameren Corporation	AEE	0.486	0.550
American Electric Power Company, Inc.	AEP	0.538	0.550
Avangrid, Inc.	AGR	0.508	0.400
Avista	AVA	0.492	0.600
CMS Energy Corporation	CMS	0.486	0.500
DTE Energy Company	DTE	0.528	0.550
Evergy, Inc	EVRG	0.437	0.511
Hawaiian Electric Industries, Inc.	HE	0.511	0.550
NextEra Energy, Inc.	NEE	0.523	0.550
NorthWestern Corporation	NWE	0.528	0.600
OGE Energy Corp.	OGE	0.583	0.750
Otter Tail Corporation	OTTR	0.631	0.700
Pinnacle West Capital Corporation	PNW	0.426	0.500
PNM Resources, Inc.	PNM	0.528	0.600
Portland General Electric Company	POR	0.524	0.550
Southern Company	SO	0.512	0.500
WEC Energy Group, Inc.	WEC	0.471	0.500
Xcel Energy Inc.	XEL	0.517	0.500
Mean		0.513	0.561

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology.

Bloomberg and Value Line Beta Coefficients DEP Rebuttal (4/17/2020)

Company	Ticker	[1] Bloomberg	[2] Value Line
ALLETE, Inc.	ALE	0.939	0.600
Alliant Energy Corporation	LNT	1.003	0.550
Ameren Corporation	AEE	0.922	0.500
American Electric Power Company, Inc.	AEP	0.983	0.500
Avangrid, Inc.	AGR	0.755	0.400
Avista	AVA	0.927	0.600
CMS Energy Corporation	CMS	0.940	0.500
DTE Energy Company	DTE	1.097	0.500
Evergy, Inc	EVRG	1.043	0.655
Hawaiian Electric Industries, Inc.	HE	0.768	0.550
NextEra Energy, Inc.	NEE	0.912	0.500
NorthWestern Corporation	NWE	1.184	0.600
OGE Energy Corp.	OGE	1.163	0.700
Otter Tail Corporation	OTTR	0.973	0.700
Pinnacle West Capital Corporation	PNW	1.051	0.500
PNM Resources, Inc.	PNM	1.269	0.600
Portland General Electric Company	POR	0.986	0.550
Southern Company	SO	1.050	0.500
WEC Energy Group, Inc.	WEC	0.978	0.500
Xcel Energy Inc.	XEL	0.958	0.450
Mean		0.995	0.548

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology using data as of March 13, 2020, the date of Value Line's report for Evergy.

Bloomberg and Value Line Beta Coefficients DEC/DEP Supplemental Rebuttal (6/30/2020)

Company	Ticker	[1] Bloomberg	[2] Value Line
ALLETE, Inc.	ALE	0.981	0.850
Alliant Energy Corporation	LNT	1.005	0.800
Ameren Corporation	AEE	0.921	0.800
American Electric Power Company, Inc.	AEP	0.969	0.750
Avangrid, Inc.	AGR	0.783	0.800
Avista Corporation	AVA	0.934	0.600
CMS Energy Corporation	CMS	0.938	0.800
DTE Energy Company	DTE	1.103	0.900
Evergy, Inc	EVRG	1.042	1.050
Hawaiian Electric Industries, Inc.	HE	0.773	0.550
NextEra Energy, Inc.	NEE	0.908	0.850
NorthWestern Corporation	NWE	1.212	0.550
OGE Energy Corp.	OGE	1.179	1.050
Otter Tail Corporation	OTTR	0.983	0.850
Pinnacle West Capital Corporation	PNW	1.041	0.450
PNM Resources, Inc.	PNM	1.261	0.500
Portland General Electric Company	POR	1.015	0.550
Southern Company	SO	1.036	0.900
WEC Energy Group, Inc.	WEC	0.969	0.800
Xcel Energy Inc.	XEL	0.954	0.450
Mean		1.000	0.743

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line.

## **CERTIFICATE OF SERVICE**

DOCKET NO. E-2, SUB 1219

DOCKET NO. E-7, SUB 1214

I hereby certify that a copy of the foregoing **SUPPLEMENTAL REBUTTAL TESTIMONY AND EXHIBITS OF DYLAN W. D'ASCENDIS FOR DUKE ENERGY PROGRESS, LLC AND DUKE ENERGY CAROLINAS, LLC** was served electronically or by depositing a copy in United States Mail, first class postage prepaid, properly addressed to the parties of record.

This the 20th day of July 2020.

*/s/ Kiran H. Mehta*

Kiran H. Mehta

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